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AEDC-TR-75-125  
AFATL-TR-76-23

cy. 1

**A COMPILATION OF  
STATIC STABILITY AND FIN LOADS DATA  
FOR SLENDER BODY MISSILE MODELS  
WITH AND WITHOUT TAIL FINS AND WINGS**

**VOLUME II**

(APPENDIXES A THROUGH E)  
(TESTS NUMBER 1 THROUGH 5)

PROPULSION WIND TUNNEL FACILITY  
ARNOLD ENGINEERING DEVELOPMENT CENTER  
AIR FORCE SYSTEMS COMMAND  
ARNOLD AF STATION, TENNESSEE 37389

March 1976

Final Report for Period March 1968 — March 1973

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Prepared for

AIR FORCE ARMAMENT LABORATORY (AFATL/DLMA)  
EGLIN AIR FORCE BASE, FLORIDA 32543

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## APPROVAL STATEMENT

This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER



JOHN R. TAYLOR  
Analysis & Evaluation  
Division  
Directorate of Test



CRAIG E. MAHAFFY  
Colonel, USAF  
Director of Test

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM	
1. REPORT NUMBER <b>AEDC-TR-75-125 AFATL-TR-76-23</b>	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle) <b>A COMPILATION OF STATIC STABILITY AND FIN LOADS DATA FOR SLENDER BODY MISSILE MODELS WITH AND WITHOUT TAIL FINS AND WINGS - VOLUME II (APPENDIXES A (Continued))</b>	5. TYPE OF REPORT & PERIOD COVERED <b>Final Report - March 1968 - 1973</b>		
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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)			
18. SUPPLEMENTARY NOTES  <b>Available in DDC; complete report consists of five volumes.</b>			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>Martin Generalized Research Model tables (data) guided missiles models wing body configurations</b> </div> <div style="width: 50%;"> <b>slender bodies static stability fins aerodynamic loading control surfaces</b> </div> </div> <div style="text-align: right;"><b>(Cont'd)</b></div>			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <b>This document contains a compilation of aerodynamic data for the Martin Generalized Research Model, which is a composite of several body, wing, and tail fin configurations typical of missile applications. The model variations included five body configurations, three wing configurations at various body locations, and 15 tail fin configurations. Static stability and tail fin loads data are presented in tabulated and plotted form for a Mach number range</b>			

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## 4. TITLE (Continued)

THROUGH E) (TESTS NUMBER 1 THROUGH 5)

## 19. KEY WORDS (Continued)

deflection  
transonic flow  
supersonic flow  
wind tunnel tests

## 20. ABSTRACT (Continued)

from 0.20 to 4.63 over an angle-of-attack range from -6 to 60 deg and a sideslip angle range from -20 to 20 deg for the body-alone configurations, body-wing configurations, and the body-wing-tail fin configurations. In addition, the tail fin configurations were tested using the reflection plane technique, and the resulting fin loads data are presented for a Mach number range of 0.80 to 2.16 over an angle-of-attack range from 0 to 210 deg. Volume II contains the tabulated data obtained during Tests Number 1 and 2 at AEDC and Tests Number 3, 4, and 5 at NASA Langley Research Center.

## PREFACE

The data presented herein were compiled by the Arnold Engineering Development Center (AEDC), Air Force Systems Command (AFSC), under the sponsorship of the Air Force Armament Laboratory (AFATL), Eglin Air Force Base, Florida. Seven different tests were conducted by three organizations: ARO, Inc. (a subsidiary of Sverdrup & Parcel and Associates, Inc.), contract operator of the AEDC, AFSC, Arnold Air Force Station, Tennessee; Naval Ship Research and Development Center (NSRDC), Bethesda, Maryland; and Langley Research Center (LRC), National Aeronautics and Space Administration (NASA), Langley Air Force Base, Virginia. The data were compiled under ARO Project No. P34A-37A. The author of this report was G. R. Gomillion, ARO, Inc. The manuscript (ARO Control No. ARO-PWT-TR-75-88) was submitted for publication on June 20, 1975.

This volume contains the tabulated data that were obtained during (1) Tests Number 1 and 2 that were conducted in the Aerodynamic Wind Tunnel (4T) at AEDC during December 1970 and May 1972, respectively, and (2) Tests Number 3, 4, and 5 that were conducted in the Unitary Plan Wind Tunnel (UPWT) at NASA Langley Research Center during March 1968, April 1970, and July 1971, respectively. As an aid in the use of these data, tables that list the part numbers for the tabulated data from Tests Number 1 through 5 and the general list of nomenclature are repeated from Volume I at the end of this volume.

# **APPENDIX A**

## **TEST 1**

## ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

## PROPULSION WIND TUNNEL FACILITY (PWT)

## AERODYNAMIC WIND TUNNEL (4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RATIO-6											
1 4 0.60 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.40012 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CA9	CAF	KCP
1	-0.00	-0.00	0.0244	-0.0716	-0.0292	0.0919	0.0003	0.2532	0.0970	0.1562	-2.8852
2	1.99	-0.00	0.3149	-0.7170	-0.0250	0.0862	-0.0015	0.2604	0.0987	0.1617	-2.2637
3	3.99	-0.00	0.6359	-1.4337	-0.0232	0.0839	-0.0015	0.2655	0.1057	0.1597	-2.2060
4	5.97	-0.00	0.9850	-2.2760	-0.0254	0.0861	-0.0032	0.2813	0.1124	0.1669	-2.3069
5	7.98	-0.00	1.3592	-3.1649	-0.0209	0.0693	-0.0013	0.2981	0.1154	0.1827	-2.3440
6	9.98	-0.00	1.7208	-4.0443	-0.0138	0.0600	-0.0085	0.3192	0.1283	0.1910	-2.3421
7	11.96	-0.00	2.1170	-4.8982	-0.0141	0.0598	-0.0086	0.3286	0.1401	0.1825	-2.3128
8	13.96	-0.00	2.5008	-5.6443	-0.0095	0.0768	-0.0065	0.3348	0.1578	0.1770	-2.2578
9	15.96	-0.00	2.8439	-6.2586	-0.0141	0.0954	-0.0049	0.3365	0.1651	0.1714	-2.1782
10	17.04	-0.01	3.0278	-6.7989	-0.0152	0.1006	-0.0052	0.3325	0.1685	0.1640	-2.0797
11	18.00	-0.00	3.2087	-6.9809	-0.0062	0.0736	-0.0129	0.3430	0.1753	0.1678	-2.0518
12	19.03	-0.00	3.4277	-6.9567	-0.0165	0.0865	-0.0131	0.3501	0.1849	0.1652	-2.0295
13	20.02	-0.00	3.6427	-7.2512	-0.0012	0.0431	-0.0191	0.3530	0.1906	0.1623	-1.9906
14	21.05	-0.00	3.8349	-7.5013	0.0132	0.0078	-0.0250	0.3522	0.2015	0.1507	-1.9561
15	22.09	-0.01	4.0753	-7.8622	0.0149	0.0363	-0.0140	0.3575	0.2092	0.1484	-1.9292
16	23.08	-0.01	4.3925	-8.1643	0.0308	0.0000	-0.0091	0.3554	0.2262	0.1292	-1.8976
17	24.11	-0.01	4.4724	-8.2630	0.0369	0.0104	0.0123	0.3535	0.2256	0.1280	-1.8675
18	25.16	-0.00	4.6735	-8.3882	0.0544	-0.0253	0.0404	0.3522	0.2438	0.1084	-1.7948
19	26.16	-0.00	4.8054	-8.3984	0.0866	-0.0440	0.0849	0.3536	0.2587	0.0949	-1.7477
20	27.14	0.01	5.0284	-8.5453	0.1402	-0.2441	0.1401	0.3590	0.2760	0.0811	-1.6994
21	28.17	0.01	5.2720	-8.8234	0.1441	-0.3420	0.1451	0.3586	0.2960	0.0626	-1.6736
22	29.16	0.01	5.5319	-9.0646	0.3322	-0.5945	0.1477	0.3447	0.3102	0.0396	-1.6386
23	29.18	0.01	5.4867	-9.0467	0.2734	-0.5310	0.1570	0.3447	0.3318	0.0129	-1.6488
24	30.21	0.02	5.7514	-9.2423	0.3173	-0.6633	0.1623	0.3295	0.3315	-0.0020	-1.6078

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RATIO-6			PMI CONF		L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1			5 0.65 2.3		0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-0.01	-0.00	0.0070	-0.0011	-0.0345	0.0054	0.0091	0.2299	0.1080	0.1219	-12.9266
2	1.94	-0.00	0.3080	-0.7652	-0.0312	0.0903	0.0057	0.2390	0.1034	0.1355	-2.4844
3	3.97	-0.00	0.6324	-1.5254	-0.0304	0.0931	0.0076	0.2473	0.1087	0.1385	-2.4109
4	5.96	-0.00	0.9748	-2.3697	-0.0278	0.0893	0.0060	0.2627	0.1184	0.1443	-2.4318
5	7.95	-0.00	1.3543	-3.3224	-0.0258	0.0617	0.0094	0.2896	0.1182	0.1714	-2.4446
6	9.96	-0.00	1.7485	-4.2139	-0.0220	0.0594	0.0077	0.3075	0.1308	0.1767	-2.4100
7	11.95	-0.00	2.1486	-5.0952	-0.0074	0.0528	0.0008	0.3315	0.1434	0.1881	-2.3714
8	13.97	-0.00	2.5586	-5.9077	-0.0174	0.0742	0.0062	0.3380	0.1527	0.1853	-2.3090
9	15.96	-0.00	2.9448	-6.5293	-0.0301	0.1110	0.0114	0.3386	0.1659	0.1727	-2.2172
10	17.04	-0.00	3.0677	-6.4994	-0.0421	0.1442	0.0165	0.3276	0.1673	0.1603	-2.1100
11	18.03	-0.01	3.2604	-6.7786	-0.0026	0.0691	-0.0071	0.3411	0.1779	0.1632	-2.0791
12	19.00	-0.00	3.4753	-7.1226	-0.0258	0.0952	0.0033	0.3528	0.1885	0.1643	-2.0495
13	20.03	-0.00	3.6558	-7.3357	-0.0023	0.0325	-0.0044	0.3499	0.1977	0.1522	-2.0066
14	21.05	-0.00	3.8771	-7.5107	0.0049	0.0134	-0.0083	0.3618	0.2027	0.1591	-1.9630
15	22.09	-0.00	4.1010	-7.8494	-0.0077	0.0607	-0.0030	0.3579	0.2236	0.1343	-1.9262
16	23.11	-0.00	4.3053	-8.0964	0.0045	0.0335	-0.0018	0.3590	0.2362	0.1227	-1.8897
17	24.15	-0.00	4.4493	-8.1917	0.0144	0.0372	0.0329	0.3607	0.2471	0.1136	-1.8247
18	25.12	-0.00	4.7031	-8.3266	0.0314	0.0163	0.0570	0.3618	0.2646	0.0972	-1.7785
19	26.16	0.00	4.8418	-8.4221	0.0574	-0.0304	0.0786	0.3599	0.2749	0.0850	-1.7218
20	27.20	0.00	5.0969	-8.5472	0.0568	-0.0476	0.1164	0.3587	0.2926	0.0661	-1.6769
21	28.21	0.00	5.3443	-8.7865	0.1195	-0.1546	0.0994	0.3514	0.3011	0.0503	-1.6404
22	29.26	0.01	5.5906	-8.9312	0.1218	-0.1956	0.1804	0.3396	0.3199	0.0197	-1.5975
23	30.30	0.01	5.8657	-8.9770	0.1491	-0.2507	0.1075	0.3211	0.3269	-0.0059	-1.5396

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

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MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PM1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 8 U.92 2.3 0.0 04W0F12 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-0.00	-0.00	0.0437	-0.1083	-0.0241	0.0840	-0.0030	0.2514	0.0890	0.1624	-2.4762
2	1.94	-0.00	0.3371	-0.7600	-0.0207	0.0803	-0.0063	0.2566	0.0991	0.1574	-2.2541
3	3.96	-0.00	0.6977	-1.6764	-0.0214	0.0406	-0.0076	0.2614	0.1075	0.1539	-2.4027
4	5.98	-0.00	1.0766	-2.6632	-0.0196	0.0814	-0.0091	0.2742	0.1195	0.1547	-2.4737
5	7.97	-0.00	1.4927	-3.7583	-0.0134	0.0646	-0.0089	0.3018	0.1262	0.1756	-2.5178
6	7.47	-0.00	1.4910	-3.7837	-0.0114	0.0737	-0.0120	0.3035	0.1244	0.1790	-2.5377
7	9.98	-0.01	1.9002	-4.7644	-0.0092	0.0742	-0.0184	0.3349	0.1386	0.1962	-2.5073
8	11.93	-0.01	2.3060	-5.6714	-0.0043	0.0743	-0.0233	0.3470	0.1581	0.1888	-2.4594
9	13.96	-0.01	2.7311	-6.5184	-0.0006	0.0828	-0.0233	0.3469	0.1635	0.1834	-2.3867
10	15.95	-0.01	3.1191	-7.2062	-0.0037	0.1308	-0.0096	0.3494	0.1682	0.1811	-2.3183
11	17.00	-0.01	3.3111	-7.4024	-0.0312	0.2579	0.0143	0.3548	0.1722	0.1826	-2.2358
12	17.99	-0.01	3.4650	-7.5056	-0.0160	0.2090	-0.0113	0.3581	0.1916	0.1665	-2.1661
13	19.51	-0.01	3.6516	-7.6643	0.0127	0.0835	-0.0244	0.3628	0.2167	0.1461	-2.0989
14	20.05	-0.01	3.8427	-7.8666	0.0223	0.0142	-0.0337	0.3723	0.2313	0.1410	-2.0472
15	21.05	-0.01	4.0604	-8.1461	0.0180	0.0421	-0.0254	0.3858	0.2430	0.1428	-2.0062
16	22.07	-0.01	4.2557	-8.2823	0.0095	0.0564	-0.0143	0.3801	0.2612	0.1189	-1.9442
17	23.09	-0.01	4.4564	-8.3778	0.0057	0.0837	-0.0096	0.3860	0.2761	0.1099	-1.8799
18	24.13	-0.01	4.4418	-8.4436	0.0008	0.0926	-0.0017	0.3893	0.2903	0.0990	-1.8190
19	25.17	-0.01	4.8540	-8.4900	-0.0064	0.1236	-0.0055	0.3846	0.3056	0.0790	-1.7476
20	26.20	-0.01	5.0648	-8.5723	-0.0262	0.1767	-0.0040	0.3752	0.3217	0.0535	-1.6926
21	27.25	-0.01	5.3600	-8.5677	0.0561	0.0391	0.0421	0.3614	0.3318	0.0296	-1.5985
22	28.30	-0.01	5.6316	-8.4536	0.0461	0.0171	0.0359	0.3429	0.3353	0.0076	-1.5011
23	29.33	-0.01	5.9382	-8.4045	0.1111	-0.0549	0.0587	0.3312	0.3499	-0.0187	-1.4153
24	30.38	-0.01	6.1796	-8.4184	0.0816	0.0034	0.0448	0.3114	0.3551	-0.0438	-1.3623

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
9 U.64 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.40012 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAR	CAF	KCP
1	-0.00	-0.00	0.0520	-0.1351	-0.0324	0.1175	-0.0140	0.2656	0.1054	0.1603	-2.5950
2	2.00	-0.00	0.3624	-0.0229	-0.0264	0.1049	-0.0206	0.2711	0.1045	0.1667	-2.2704
3	3.99	-0.01	0.7006	-1.6448	-0.0235	0.1056	-0.0204	0.2686	0.1104	0.1581	-2.3478
4	5.98	-0.01	1.0724	-2.6277	-0.0231	0.1065	-0.0200	0.2848	0.1100	0.1748	-2.4503
5	7.96	-0.01	1.4867	-3.7095	-0.0181	0.1013	-0.0246	0.3085	0.1363	0.1722	-2.4991
6	9.95	-0.01	1.8971	-4.7412	-0.0141	0.1016	-0.0276	0.3355	0.1518	0.1837	-2.4992
7	11.95	-0.01	2.3180	-5.7034	-0.0135	0.1056	-0.0339	0.3541	0.1640	0.1901	-2.4605
8	13.95	-0.01	2.7495	-6.5805	-0.0062	0.1064	-0.0339	0.3549	0.1769	0.1781	-2.3934
9	15.97	-0.01	3.1543	-7.2954	-0.0010	0.1479	-0.0240	0.3608	0.1883	0.1725	-2.3093
10	16.98	-0.01	3.4834	-7.6671	-0.0023	0.1386	-0.0209	0.3696	0.2008	0.1688	-2.2658
11	17.99	-0.01	3.5670	-7.8774	-0.0081	0.1635	0.0050	0.3737	0.2156	0.1581	-2.2084
12	19.01	-0.01	3.7279	-7.4492	-0.0079	0.1491	-0.0248	0.3743	0.2407	0.1335	-2.1323
13	20.94	-0.01	3.9048	-8.0263	0.0071	0.0747	-0.0438	0.3899	0.2455	0.1444	-2.0555
14	21.06	-0.01	4.1152	-8.2456	0.0091	0.0634	-0.0411	0.3966	0.2745	0.1171	-2.0037
15	22.08	-0.01	4.3208	-8.3924	0.0157	0.0552	-0.0333	0.4050	0.2792	0.1259	-1.9423
16	23.12	-0.01	4.5421	-8.4457	0.0037	0.0800	-0.0290	0.4005	0.2933	0.1071	-1.8681
17	24.17	-0.01	4.7627	-8.5331	-0.0028	0.1130	-0.0100	0.3983	0.3042	0.0941	-1.7854
18	25.19	-0.01	4.9900	-8.4651	-0.0176	0.1223	-0.0255	0.3921	0.3172	0.0749	-1.6964
19	26.23	-0.01	5.2415	-8.4361	0.0022	0.1012	-0.0135	0.3807	0.3317	0.0490	-1.6095
20	27.29	-0.01	5.5334	-8.4011	0.0527	0.0204	0.0143	0.3659	0.3407	0.0252	-1.5183
21	28.36	-0.01	5.8931	-8.3084	0.1091	-0.0945	0.0309	0.3557	0.3393	0.0165	-1.4098
22	29.42	-0.00	6.1848	-8.2792	0.1752	-0.2415	0.0558	0.3368	0.3539	-0.0170	-1.3366
23	30.47	-0.00	6.4896	-8.2783	0.1486	-0.2765	0.0463	0.3181	0.3629	-0.0448	-1.2754
24	0.00	-0.01	0.0716	-0.1511	-0.0306	0.1284	-0.0396	0.3017	0.1122	0.1895	-2.1169

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 10 0.96 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.00F12 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP
1	0.00	-0.01	0.0714	-0.1464	-0.0316	0.1298	-0.0411	0.3011	0.1137	0.1875	-2.0566
2	2.06	-0.01	0.3877	-0.8966	-0.0264	0.1203	-0.0426	0.2984	0.1200	0.1784	-2.3128
3	3.94	-0.01	0.7375	-1.7660	-0.0202	0.1125	-0.0439	0.3044	0.1163	0.1881	-2.3947
4	5.98	-0.01	1.0812	-2.6447	-0.0205	0.1098	-0.0439	0.3125	0.1278	0.1847	-2.4461
5	7.97	-0.01	1.4788	-3.6280	-0.0166	0.1062	-0.0468	0.3323	0.1425	0.1897	-2.4534
6	9.95	-0.01	1.8855	-4.6204	-0.0138	0.1102	-0.0529	0.3589	0.1535	0.2054	-2.4508
7	11.95	-0.01	2.3178	-5.6266	-0.0096	0.1067	-0.0560	0.3850	0.1621	0.2229	-2.4275
8	13.96	-0.01	2.7470	-6.5037	-0.0045	0.1084	-0.0559	0.3853	0.1848	0.2005	-2.3676
9	15.97	-0.01	3.1765	-7.2890	0.0047	0.1051	-0.0546	0.3498	0.2054	0.1944	-2.2947
10	16.99	-0.01	3.3881	-7.6015	0.0039	0.1099	-0.0528	0.4118	0.2132	0.1986	-2.2436
11	18.00	-0.01	3.6095	-7.9527	0.0096	0.0967	-0.0516	0.4198	0.2361	0.1837	-2.2033
12	18.99	-0.01	3.8052	-8.1854	0.0005	0.1230	-0.0326	0.4117	0.2590	0.1528	-2.1511
13	20.04	-0.01	3.9769	-8.2708	0.0206	0.0690	-0.0610	0.4079	0.2665	0.1414	-2.0797
14	21.09	-0.01	4.2127	-8.3444	0.0151	0.0617	-0.0615	0.4288	0.2637	0.1651	-1.9938
15	22.10	-0.01	4.3455	-8.4201	0.0025	0.0802	-0.0603	0.4245	0.2838	0.1407	-1.9156
16	23.13	-0.01	4.6475	-8.5361	-0.0130	0.1075	-0.0626	0.4157	0.2927	0.1230	-1.8367
17	24.17	-0.01	4.8985	-8.5627	0.0266	0.0320	-0.0429	0.4100	0.3028	0.1073	-1.7521
18	25.23	-0.01	5.1777	-8.5368	0.0519	-0.0297	-0.0282	0.4156	0.3086	0.1070	-1.6488
19	26.27	-0.01	5.4273	-8.4227	0.0855	-0.0990	0.0038	0.3980	0.3238	0.0741	-1.5519
20	27.32	-0.00	5.7172	-8.3430	0.1377	-0.1797	0.0454	0.3833	0.3403	0.0430	-1.4593
21	28.42	-0.00	6.0637	-8.2785	0.1134	-0.1422	0.0245	0.3627	0.3461	0.0166	-1.3652
22	29.46	-0.01	6.4513	-8.2585	0.1228	-0.1265	0.0226	0.3566	0.3499	0.0067	-1.2801
23	30.50	-0.02	6.7194	-8.2319	0.0843	0.0144	-0.0142	0.3369	0.3577	-0.0208	-1.2251



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1  
SHEET 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
1 14 0.48 2.3											
PM1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1 0.0 0.480F12 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAR	CAF	KCP
1	-0.00	-0.00	0.0469	-0.1117	-0.0222	0.0836	0.0017	0.3384	0.1433	0.1951	-2.3826
2	1.99	-0.00	0.3697	-0.8845	-0.0249	0.0863	0.0050	0.3338	0.1339	0.1499	-2.3925
3	3.99	-0.00	0.7261	-1.7633	-0.0215	0.0837	0.0052	0.3425	0.1352	0.2073	-2.4205
4	5.99	-0.00	1.0853	-2.6622	-0.0205	0.0790	0.0054	0.3484	0.1529	0.1955	-2.4530
5	7.98	-0.00	1.4640	-3.5932	-0.0202	0.0692	0.0055	0.3826	0.1599	0.2227	-2.4544
6	9.96	-0.00	1.8531	-4.5149	-0.0144	0.0673	0.0009	0.3976	0.1878	0.2098	-2.4364
7	11.96	-0.00	2.2784	-5.4294	-0.0169	0.0757	-0.0022	0.4271	0.2044	0.2227	-2.3830
8	13.96	-0.00	2.7080	-6.3066	-0.0129	0.0771	0.0026	0.4360	0.2176	0.2204	-2.3289
9	15.96	-0.00	3.1271	-7.0787	-0.0071	0.0729	0.0024	0.4466	0.2420	0.2046	-2.2637
10	16.99	-0.01	3.3500	-7.3674	-0.0024	0.0664	-0.0026	0.4687	0.2511	0.2175	-2.1902
11	18.01	-0.01	3.5759	-7.6934	0.0023	0.0604	-0.0029	0.4715	0.2811	0.1904	-2.1516
12	19.02	-0.01	3.8193	-8.0483	0.0048	0.0560	-0.0016	0.4614	0.2987	0.1627	-2.1073
13	20.05	-0.00	4.0549	-8.2569	-0.0080	0.0741	-0.0004	0.4723	0.2881	0.1842	-2.0363
14	21.08	-0.00	4.3011	-8.5670	-0.0117	0.0874	0.0010	0.4612	0.2900	0.1712	-1.9918
15	22.12	-0.00	4.5505	-8.6134	0.0257	0.0072	0.0060	0.4568	0.2921	0.1646	-1.8928
16	23.14	-0.01	4.7444	-8.5240	0.0326	0.0231	0.0167	0.4468	0.3054	0.1413	-1.7966
17	24.20	-0.00	4.9079	-8.5084	0.0560	-0.0385	0.0153	0.4363	0.3169	0.1194	-1.6998
18	25.24	-0.00	5.3296	-8.5642	0.0390	0.0021	0.0254	0.4300	0.3387	0.0913	-1.6060
20	27.36	-0.00	5.9702	-8.4652	0.1144	-0.1525	0.0522	0.3934	0.3426	0.0507	-1.4179
21	28.44	-0.00	6.2621	-8.3423	0.1341	-0.2150	0.0499	0.3778	0.3500	0.0278	-1.3322
22	29.49	0.00	6.5388	-8.2595	0.1681	-0.2640	0.0702	0.3695	0.3529	0.0165	-1.2631
23	30.55	-0.00	6.8655	-8.2425	0.1605	-0.2263	0.0722	0.3531	0.3595	-0.0064	-1.2006
24	26.30	-0.00	5.6618	-8.5754	0.0908	-0.1122	0.0553	0.4200	0.3526	0.0674	-1.5146
25	27.09	-0.00	4.5434	-8.6001	0.0213	0.0114	0.0155	0.4670	0.3364	0.1306	-1.8929
26	18.01	-0.00	3.5869	-7.7401	-0.0022	0.0711	0.0067	0.4621	0.3144	0.1478	-2.1579
27	13.96	-0.00	2.7184	-6.3561	-0.0167	0.0876	0.0139	0.4190	0.2734	0.1456	-2.3382
28	9.97	-0.00	1.8723	-4.5844	-0.0185	0.0749	0.0122	0.3809	0.2339	0.1470	-2.4486
29	5.97	-0.00	1.0905	-2.6946	-0.0224	0.0851	0.0118	0.3440	0.1853	0.1587	-2.4718
30	1.99	-0.00	0.3815	-0.9160	-0.0256	0.0985	0.0130	0.3301	0.1506	0.1875	-2.4807
31	-0.00	-0.00	0.0553	-0.1354	-0.0295	0.0956	0.0143	0.3388	0.1366	0.2021	-2.4486

TEST PART MACH RK10-6			PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 15 1.65 2.3			0.0	04-09F12	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	Ca	CAB	CAF	KCP
1	-0.00	-0.00	0.0334	-0.1136	-0.0330	0.1155	0.0138	0.4926	0.1994	0.2932	-3.3502
2	1.98	-0.00	0.3624	-0.8355	-0.0325	0.1118	0.0124	0.4984	0.2073	0.2916	-2.4400
3	3.99	-0.00	0.7371	-1.8533	-0.0297	0.1047	0.0127	0.4966	0.2258	0.2708	-2.5142
4	5.97	-0.00	1.1065	-2.7582	-0.0262	0.1069	0.0129	0.5067	0.2367	0.2700	-2.4927
5	7.97	-0.00	1.4645	-3.5176	-0.0262	0.0827	0.0156	0.5447	0.2226	0.3271	-2.4019
6	9.97	-0.00	1.8518	-4.4128	-0.0229	0.0858	0.0144	0.5609	0.2628	0.2981	-2.3830
7	11.97	-0.00	2.2658	-5.2319	-0.0212	0.0923	0.0113	0.5740	0.2795	0.2945	-2.3091
8	14.71	-0.00	2.6714	-5.9403	-0.0229	0.0969	0.0126	0.5817	0.2872	0.2945	-2.2233
9	16.02	-0.00	3.0906	-6.5666	-0.0183	0.0914	0.0122	0.5915	0.3002	0.2913	-2.1247
10	17.04	-0.00	3.3168	-6.8763	-0.0159	0.0943	0.0119	0.5996	0.3068	0.2928	-2.0732
11	18.05	-0.00	3.5473	-7.1510	-0.0156	0.0970	0.0086	0.6068	0.3139	0.2869	-2.0161
12	19.07	-0.00	3.7769	-7.3704	-0.0133	0.0914	0.0096	0.6053	0.3193	0.2860	-1.9515
13	20.10	-0.00	4.0247	-7.5484	-0.0140	0.0905	0.0091	0.5999	0.3268	0.2723	-1.8869
14	21.13	-0.00	4.3025	-7.8014	-0.0030	0.0679	0.0069	0.5901	0.3361	0.2541	-1.8133
15	22.17	-0.00	4.5957	-7.9533	0.0101	0.0369	0.0090	0.5777	0.3354	0.2423	-1.7306
16	23.21	-0.00	4.8914	-8.0787	0.0402	-0.0329	0.0124	0.5622	0.3402	0.2220	-1.6514
17	24.26	-0.00	5.2011	-8.1618	0.0638	-0.0986	0.0186	0.5488	0.3414	0.2069	-1.5692
18	25.31	0.00	5.5054	-8.1775	0.0768	-0.1353	0.0234	0.5331	0.3392	0.1939	-1.4852
19	26.38	0.00	5.8338	-8.2243	0.1073	-0.2078	0.0321	0.5162	0.3450	0.1712	-1.4096
20	27.42	0.01	6.1574	-8.2563	0.1414	-0.3117	0.0419	0.4999	0.3501	0.1497	-1.3409
21	28.47	0.01	6.4703	-8.2486	0.1603	-0.3643	0.0398	0.4881	0.3444	0.1438	-1.2748
22	29.54	0.00	6.7764	-8.2801	0.1636	-0.3353	0.0311	0.4722	0.3505	0.1217	-1.2219
23	30.59	0.01	7.0528	-8.2477	0.2889	-0.6185	0.0581	0.4529	0.3546	0.0984	-1.1694
24	26.37	0.00	5.8086	-8.1964	0.1111	-0.2263	0.0350	0.5231	0.3624	0.1607	-1.4111
25	24.37	0.00	5.8107	-8.1924	0.1101	-0.2063	0.0351	0.5201	0.3543	0.1658	-1.4099
26	22.17	-0.00	6.5702	-7.8606	0.0079	0.0402	0.0104	0.5875	0.3445	0.2430	-1.7200
27	18.05	-0.00	3.5275	-7.1143	-0.0155	0.0963	0.0116	0.5981	0.3378	0.2603	-2.0168
28	13.99	-0.00	2.6419	-5.8514	-0.0216	0.0982	0.0125	0.5773	0.3100	0.2673	-2.2150
29	9.97	-0.00	1.8397	-4.3945	-0.0256	0.0944	0.0113	0.5529	0.2929	0.2591	-2.3887
30	5.97	-0.00	1.0844	-2.7200	-0.0272	0.1130	0.0099	0.5033	0.2473	0.2560	-2.5083
31	1.99	-0.00	0.3427	-0.8644	-0.0324	0.1223	0.0104	0.4935	0.1965	0.2970	-2.5237
32	-0.01	-0.00	0.0208	-0.1194	-0.0354	0.1224	0.0123	0.4884	0.2050	0.2834	-5.7434

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 16 1.10 2.3 0.0 H4=0F12 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CM	CLM	CY	CLM	CLL	CA	CAB	CAF	ACP
1	-0.00	-0.01	0.0045	-0.0270	-0.0465	0.1763	0.0124	0.5259	0.2148	0.3112	-3.2133
2	1.99	-0.01	0.3478	-0.0370	-0.0444	0.2019	0.0142	0.5277	0.2200	0.3077	-2.4065
3	3.99	-0.01	0.6745	-1.6067	-0.0454	0.1827	0.0127	0.5242	0.2291	0.2951	-2.3645
4	5.99	-0.01	1.0604	-2.5414	-0.0396	0.1673	0.0143	0.5339	0.2239	0.3100	-2.3955
5	7.99	-0.01	1.4109	-3.2452	-0.0347	0.1349	0.0184	0.5484	0.2452	0.3032	-2.3285
6	9.98	-0.01	1.7854	-4.0844	-0.0293	0.1266	0.0125	0.4661	0.2476	0.3185	-2.2873
7	12.00	-0.01	2.1740	-4.8048	-0.0278	0.1246	0.0109	0.5746	0.2532	0.3214	-2.2101
8	12.00	-0.01	2.1495	-4.4051	-0.0268	0.1298	0.0124	0.5694	0.2626	0.3067	-2.2149
9	14.02	-0.01	2.5731	-5.4368	-0.0254	0.1257	0.0120	0.5780	0.2640	0.3139	-2.1129
10	16.04	-0.01	2.9828	-6.0203	-0.0223	0.1260	0.0086	0.5844	0.2706	0.3138	-2.0183
11	17.07	-0.01	3.2243	-6.3505	-0.0136	0.1144	0.0053	0.5908	0.2785	0.3123	-1.9665
13	20.13	-0.01	3.9654	-7.0700	-0.0052	0.1051	0.0055	0.5617	0.3062	0.2755	-1.7827
14	21.16	-0.01	4.2419	-7.2297	0.0000	0.1047	0.0049	0.5736	0.3046	0.2690	-1.7043
15	22.21	-0.01	4.5358	-7.3699	0.0113	0.0701	0.0054	0.5619	0.3099	0.2520	-1.6248
16	23.26	-0.01	4.8273	-7.4612	0.0332	0.0155	0.0101	0.5501	0.3145	0.2357	-1.5498
17	24.32	-0.01	5.1462	-7.5248	0.0574	-0.0316	0.0131	0.5369	0.3155	0.2235	-1.4622
18	25.37	-0.00	5.4645	-7.5543	0.0845	-0.0654	0.0187	0.5242	0.3145	0.2097	-1.3824
19	26.44	-0.00	5.7948	-7.5831	0.0616	-0.0651	0.0172	0.5146	0.3202	0.1944	-1.3086
20	27.46	0.01	6.0844	-7.6032	0.1670	-0.3409	0.0536	0.5083	0.3255	0.1828	-1.2551
21	28.54	0.00	6.4600	-7.7103	0.1320	-0.2464	0.0245	0.4995	0.3320	0.1675	-1.1935
22	29.58	-0.00	6.7566	-7.8428	0.1261	-0.2008	0.0077	0.4919	0.3372	0.1547	-1.1608
23	30.65	-0.00	7.0647	-7.9263	0.1920	-0.3575	0.0273	0.4822	0.3414	0.1408	-1.1211
24	20.14	-0.01	3.9456	-6.4869	-0.0112	0.1245	0.0071	0.5765	0.3202	0.2583	-1.7708
26	-0.00	-0.01	0.0046	-0.0181	-0.0365	0.1473	0.0151	0.5211	0.2429	0.2783	-3.9148

TEST PART MACH RX10-6											
1    17 1.20 2.3			PHI COM		L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
			0.0 MACH OF 12		0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	ACP
1	0.00	-0.00	-0.0137	0.0544	-0.0218	0.0714	0.0124	0.5152	0.1839	0.3313	-3.9891
2	2.00	-0.00	0.3135	-0.4603	-0.0224	0.0755	0.0125	0.5155	0.1943	0.3211	-2.1062
3	4.00	-0.00	0.4522	-1.4447	-0.0154	0.0626	0.0140	0.5144	0.1952	0.3196	-2.2151
4	6.00	-0.00	0.9407	-2.2042	-0.0128	0.0557	0.0140	0.5214	0.2048	0.3166	-2.2249
5	8.00	-0.00	1.3594	-2.9802	-0.0045	0.0503	0.0140	0.5365	0.2069	0.3295	-2.1923
6	10.00	-0.00	1.7339	-3.7106	-0.0062	0.0403	0.0124	0.5472	0.2129	0.3343	-2.1400
7	12.01	-0.00	2.1119	-4.3523	-0.0010	0.0351	0.0092	0.5579	0.2178	0.3401	-2.0608
9	16.06	-0.00	2.9243	-5.4115	0.0066	0.0224	0.0081	0.5672	0.2388	0.3234	-1.8478
10	17.11	-0.00	3.1675	-5.6612	0.0049	0.0173	0.0048	0.5656	0.2443	0.3213	-1.7873
11	18.14	-0.00	3.4204	-5.8647	0.0124	0.0157	0.0057	0.5652	0.2546	0.3107	-1.7161
12	19.18	-0.00	3.6992	-6.0527	0.0140	0.0124	0.0051	0.5626	0.2610	0.3017	-1.6362
13	20.22	-0.00	3.9864	-6.1886	0.0206	0.0057	0.0057	0.5568	0.2665	0.2904	-1.5525
14	21.27	-0.00	4.2496	-6.3214	0.0224	0.0063	0.0050	0.5511	0.2721	0.2790	-1.4737
15	22.33	-0.00	4.5921	-6.3986	0.0245	0.0057	0.0051	0.5424	0.2728	0.2696	-1.3934
16	23.37	-0.00	4.4913	-6.4712	0.0323	-0.0147	0.0065	0.5347	0.2773	0.2574	-1.3230
18	25.49	0.00	5.5405	-6.5960	0.1072	-0.1951	0.0279	0.5232	0.2911	0.2321	-1.1905
19	26.54	0.00	5.8744	-6.6563	0.1281	-0.2417	0.0344	0.5214	0.2948	0.2266	-1.1331
20	27.61	0.00	6.2045	-6.7480	0.1500	-0.2500	0.0371	0.5180	0.2986	0.2194	-1.0876
21	28.66	0.00	6.5366	-6.8810	0.1632	-0.3282	0.0327	0.5144	0.3023	0.2123	-1.0528
22	29.64	0.00	6.6522	-7.0434	0.2044	-0.4346	0.0265	0.5104	0.3064	0.2045	-1.0280
23	30.75	-0.00	7.2405	-7.2705	0.1639	-0.2770	0.0124	0.5037	0.3155	0.1881	-1.0041
24	20.22	-0.00	3.9455	-6.1475	0.0177	0.0100	0.0071	0.5568	0.2811	0.2757	-1.5425
25	10.00	-0.00	1.7214	-3.7003	-0.0042	0.0423	0.0138	0.5396	0.2589	0.2807	-2.1496
26	0.00	-0.00	-0.0259	0.0743	-0.0198	0.0648	0.0136	0.5166	0.2091	0.3075	-3.0664

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH REX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 10 1.30 2.3			0.0	NO OF 12	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP
2	-0.00	-0.00	0.0069	-0.0401	-0.0240	0.0770	0.0119	0.4809	0.1756	0.3053	-3.8152
3	2.00	-0.00	0.7419	-0.5573	-0.0205	0.0778	0.0205	0.4893	0.1855	0.3037	-1.9773
4	4.01	-0.00	0.5495	-1.2245	-0.0216	0.0839	0.0191	0.4900	0.1937	0.2962	-2.8424
5	6.02	-0.00	0.9240	-1.9044	-0.0195	0.0904	0.0191	0.5030	0.1952	0.3078	-2.0588
6	8.03	-0.01	1.2735	-2.5692	-0.0117	0.0821	0.0176	0.5141	0.1998	0.3143	-2.0175
7	10.03	-0.00	1.6328	-3.1930	-0.0144	0.0814	0.0159	0.5215	0.2058	0.3157	-1.9555
9	14.11	-0.00	2.4056	-4.2346	-0.0045	0.0503	0.0175	0.5309	0.2287	0.3022	-1.7601
10	16.16	-0.00	2.8548	-4.6776	-0.0010	0.0415	0.0152	0.5373	0.2327	0.3046	-1.6356
11	17.17	-0.00	3.1047	-4.8656	-0.0004	0.0477	0.0161	0.5366	0.2387	0.2980	-1.5646
12	18.22	-0.00	3.3887	-5.0235	0.0021	0.0418	0.0168	0.5356	0.2440	0.2916	-1.4824
13	19.27	-0.00	3.6783	-5.1632	0.0059	0.0413	0.0172	0.5325	0.2501	0.2824	-1.4037
14	20.30	-0.00	3.9806	-5.2936	0.0165	0.0147	0.0174	0.5293	0.2557	0.2736	-1.3298
15	21.36	-0.00	4.2845	-5.3605	0.0244	0.0043	0.0186	0.5237	0.2572	0.2665	-1.2500
16	22.41	-0.00	4.5816	-5.4225	0.0291	-0.0001	0.0188	0.5204	0.2623	0.2586	-1.1835
17	23.47	-0.00	4.8797	-5.4784	0.0243	0.0045	0.0176	0.5163	0.2675	0.2508	-1.1228
18	24.54	-0.00	5.2101	-5.5314	0.0267	0.0042	0.0161	0.5179	0.2722	0.2457	-1.0618
19	25.59	-0.00	5.5211	-5.5922	0.0223	-0.0443	0.0214	0.5166	0.2768	0.2398	-1.0129
20	26.64	-0.00	5.8705	-5.7105	0.0811	-0.1144	0.0305	0.5142	0.2842	0.2350	-0.9728
21	27.69	-0.00	6.2141	-5.8748	0.0703	-0.0662	0.0296	0.5222	0.2909	0.2313	-0.9454
23	29.80	-0.00	6.9431	-6.3224	0.0498	-0.1518	0.0199	0.5270	0.3188	0.2082	-0.9107
24	30.88	-0.00	7.3357	-6.5567	0.1086	-0.1561	0.0185	0.5269	0.3231	0.2038	-0.8938
25	28.65	-0.00	5.8741	-5.6119	0.0850	-0.1207	0.0330	0.5212	0.3163	0.2049	-0.9554
26	22.42	-0.00	4.5895	-5.3691	0.0252	0.0012	0.0215	0.5264	0.3158	0.2106	-1.1699
27	18.21	-0.00	3.3848	-5.0423	0.0029	0.0325	0.0238	0.5457	0.3191	0.2266	-1.4875
28	14.21	-0.00	3.3966	-5.0444	0.0014	0.0344	0.0236	0.5407	0.3015	0.2392	-1.4863
29	14.06	-0.00	2.4061	-4.2400	0.0014	0.0397	0.0214	0.5308	0.2666	0.2440	-1.7622
30	10.03	-0.00	1.6345	-3.1914	-0.0131	0.0407	0.0212	0.5254	0.2727	0.2527	-1.9525
31	6.02	-0.00	0.9380	-1.4271	-0.0191	0.0790	0.0256	0.5052	0.2623	0.2429	-2.0545
32	2.00	-0.00	0.2859	-0.5442	-0.0239	0.0754	0.0254	0.4944	0.2417	0.2527	-1.9838
33	0.00	-0.00	-0.0113	0.0756	-0.0215	0.0643	0.0238	0.4930	0.2260	0.2670	-4.6498

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1 19 0.94 2.3 0.0 H4=0F12 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CM	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
2	1.94	-0.00	0.303M	-0.7290	-0.0264	0.0991	0.0265	0.2731	0.0992	0.1739	-2.3993
3	1.99	-0.00	0.3047	-0.7407	-0.0307	0.1036	0.0280	0.2756	0.1009	0.1747	-2.4310
4	3.99	-0.00	0.6400	-1.3605	-0.0267	0.0944	0.0283	0.2692	0.1158	0.1535	-2.4361
5	5.97	-0.00	1.0191	-2.5614	-0.0264	0.1042	0.0271	0.2644	0.1155	0.1694	-2.5134
6	7.96	-0.00	1.4447	-3.6424	-0.0256	0.0998	0.0258	0.3071	0.1320	0.1751	-2.5491
7	9.95	-0.00	1.8643	-4.7274	-0.0204	0.0956	0.0228	0.3295	0.1467	0.1827	-2.5358
8	11.95	-0.00	2.2829	-5.6547	-0.0165	0.0899	0.0179	0.3530	0.1548	0.1983	-2.4792
9	13.95	-0.00	2.6947	-6.4484	-0.0162	0.0940	0.0212	0.3534	0.1703	0.1831	-2.4115
11	14.97	-0.01	3.3532	-7.6317	-0.0211	0.1492	0.0377	0.3673	0.2166	0.1508	-2.2759
12	18.01	-0.01	3.5119	-7.7254	-0.0238	0.1660	0.0390	0.3680	0.2242	0.1438	-2.1998
13	19.03	-0.01	3.6604	-7.7864	-0.0142	0.1413	0.0237	0.3743	0.2347	0.1346	-2.1273
14	21.04	-0.00	3.8660	-7.4554	-0.0050	0.0733	0.0496	0.3949	0.2468	0.1441	-2.0578
15	21.07	-0.00	4.0842	-8.1876	-0.0015	0.0793	0.0158	0.3990	0.2569	0.1420	-2.0027
16	22.08	-0.00	4.2833	-8.2441	0.0104	0.0654	0.0299	0.3994	0.2749	0.1235	-1.9375
17	23.12	-0.00	4.4802	-8.3034	0.0032	0.0965	0.0554	0.4063	0.2839	0.1224	-1.8534
18	24.15	-0.01	4.6690	-8.2656	0.0151	0.1229	0.0762	0.4006	0.2985	0.1021	-1.7703
19	24.15	-0.00	4.6825	-8.3154	0.0062	0.1301	0.0796	0.4053	0.3137	0.0916	-1.7759
20	25.20	-0.00	4.8954	-8.2881	0.0213	0.0752	0.0751	0.3952	0.3274	0.0678	-1.6930
21	26.22	-0.00	5.1762	-8.3654	0.0461	0.0262	0.0757	0.3858	0.3480	0.0378	-1.6124
22	27.26	-0.00	5.4415	-8.2754	0.0707	-0.0077	0.0841	0.3676	0.3531	0.0145	-1.5289
23	28.35	0.00	5.8410	-8.2799	0.0877	-0.0614	0.0933	0.3529	0.3511	0.0018	-1.4176
24	29.42	-0.00	6.1353	-8.2228	0.0873	-0.0517	0.0838	0.3348	0.3562	-0.0214	-1.3402
25	30.46	-0.00	6.4453	-8.1084	0.1350	-0.1324	0.0944	0.3233	0.3632	-0.0399	-1.2581
26	24.23	-0.00	5.1574	-8.2987	0.0414	0.0370	0.0725	0.3904	0.3651	0.0253	-1.8091
27	22.04	-0.00	4.2548	-8.2575	0.0068	0.0747	0.0283	0.3984	0.3498	0.0485	-1.9408
29	13.94	-0.00	2.7154	-6.5657	-0.0125	0.0922	0.0197	0.3327	0.2204	0.1122	-2.4180
30	9.96	-0.00	1.8850	-4.7694	-0.0178	0.0934	0.0195	0.3160	0.1911	0.1249	-2.5305
31	5.97	-0.00	1.0323	-2.6035	-0.0251	0.1059	0.0223	0.2649	0.1787	0.0862	-2.5221
32	2.00	-0.00	0.3056	-0.7424	-0.0274	0.1010	0.0232	0.2715	0.1263	0.1451	-2.4305
33	-0.00	-0.00	0.0016	-0.0583	-0.0288	0.1019	0.0248	0.2677	0.1207	0.1470	-36.8062

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	PWT	MACH	NO. 10-6	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
1	22	D.8V	2.3	0.0	8420F13	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	CA	CAB	CAF	XCP
1	-0.01	-0.00	0.0517	-0.2074	-0.0240	0.0049	-0.0008	0.2528	0.1077	0.1451	-4.0236
2	-0.01	-0.00	0.0623	-0.2286	-0.0265	0.0056	-0.0008	0.2540	0.1053	0.1467	-3.6686
3	-0.01	-0.00	0.0645	-0.2266	-0.0275	0.0069	-0.0069	0.2420	0.1086	0.1334	-3.5155
4	-0.01	-0.00	0.0645	-0.2270	-0.0301	0.0907	-0.0069	0.2414	0.1050	0.1365	-3.5166
5	-0.01	-0.00	0.0623	-0.2202	-0.0316	0.0933	-0.0069	0.2378	0.1036	0.1342	-3.5323
6	1.98	-0.00	0.3418	-0.9713	-0.0304	0.0951	-0.0086	0.2371	0.1039	0.1331	-2.5440
7	3.98	-0.00	0.7434	-1.6707	-0.0245	0.0976	-0.0102	0.2320	0.1059	0.1260	-2.5162
8	5.96	-0.00	1.1225	-2.5960	-0.0244	0.1096	-0.0132	0.2356	0.1163	0.1192	-2.5799
9	7.96	-0.00	1.4701	-3.7722	-0.0266	0.1061	-0.0149	0.2582	0.1298	0.1285	-2.5660
10	9.96	-0.00	1.8396	-4.5495	-0.0284	0.1145	-0.0148	0.2738	0.1449	0.1290	-2.4731
11	11.98	-0.01	2.1439	-5.1437	-0.0338	0.1357	-0.0130	0.2859	0.1573	0.1286	-2.3992
12	14.00	-0.00	2.3445	-5.1703	-0.0297	0.1149	0.0007	0.3082	0.1798	0.1283	-2.2053
13	16.03	-0.01	2.5285	-5.0398	-0.0281	0.1312	-0.0074	0.3495	0.2263	0.1232	-1.9932
14	17.05	-0.01	2.6445	-5.0427	-0.0204	0.1059	-0.0153	0.3685	0.2761	0.0925	-1.9069
15	18.08	-0.00	2.7646	-5.0142	-0.0236	0.0911	-0.0198	0.3892	0.3091	0.0801	-1.8137
16	19.10	-0.00	2.8761	-4.8526	-0.0152	-0.0617	-0.0387	0.4252	0.3375	0.0878	-1.6872
17	19.10	0.00	2.8255	-4.7495	0.0321	-0.1351	-0.0479	0.4336	0.3306	0.1031	-1.6811
18	20.12	0.00	2.9477	-4.6634	0.0442	-0.1420	-0.0512	0.4681	0.3632	0.1049	-1.5820
19	21.16	-0.01	3.0686	-4.5565	0.0660	0.0616	-0.0220	0.5071	0.3876	0.1195	-1.4850
20	22.16	-0.00	3.2769	-4.4305	-0.0135	0.0626	-0.0225	0.5179	0.4066	0.1113	-1.4741
21	23.18	-0.01	3.4437	-4.4512	-0.0175	0.0916	-0.0227	0.5258	0.4184	0.1074	-1.4377
22	24.20	-0.01	3.6423	-5.1530	-0.0654	0.0843	-0.0231	0.5279	0.4329	0.0950	-1.4149
23	25.21	-0.01	3.6443	-5.3671	0.0031	0.0825	-0.0237	0.5313	0.4503	0.0810	-1.3889
24	26.23	-0.01	4.0565	-5.5672	0.0293	0.0472	-0.0205	0.5261	0.4606	0.0655	-1.3724
25	27.25	-0.01	4.3013	-5.8733	0.0443	-0.0055	-0.0049	0.5223	0.4717	0.0506	-1.3655
26	28.26	-0.01	4.5541	-6.1940	0.1568	-0.2049	-0.0046	0.5134	0.4746	0.0388	-1.3601
27	29.29	-0.00	4.8394	-6.5941	0.2176	-0.3660	-0.0320	0.5001	0.4848	0.0154	-1.3626
28	30.30	0.00	5.1034	-6.8561	0.2344	-0.4565	0.0434	0.4875	0.4960	-0.0085	-1.3434

TEST PART MACH RX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 24 0.65 2.3			0.0	84=0F13	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	ACP
1	-0.01	-0.00	0.0376	-0.1955	-0.0314	0.0915	-0.0084	0.7447	0.1049	0.1438	-5.2057
2	1.99	-0.00	0.3520	-0.4214	-0.0279	0.0827	-0.0083	0.7442	0.1045	0.1397	-2.6174
3	1.99	-0.00	0.3611	-0.4337	-0.0277	0.0866	-0.0100	0.7447	0.1058	0.1389	-2.5860
4	1.99	-0.00	0.3678	-0.4424	-0.0276	0.0863	-0.0100	0.7423	0.1255	0.1168	-2.5635
5	3.48	-0.00	0.7235	-1.0585	-0.0267	0.0936	-0.0078	0.7339	0.1108	0.1231	-2.5607
6	5.96	-0.00	1.1240	-2.4552	-0.0267	0.0958	-0.0042	0.7372	0.1152	0.1220	-2.6292
7	7.96	-0.00	1.4718	-3.8567	-0.0222	0.0899	-0.0107	0.7579	0.1182	0.1397	-2.5864
8	9.95	-0.00	1.8107	-4.9895	-0.0243	0.0923	-0.0107	0.7763	0.1327	0.1435	-2.5347
9	11.96	-0.00	2.1234	-5.1349	-0.0255	0.1027	-0.0108	0.7899	0.1488	0.1411	-2.4182
10	13.99	-0.00	2.3884	-5.3896	-0.0125	0.0501	-0.0101	0.3118	0.1728	0.1391	-2.2566
11	13.96	-0.00	2.3939	-5.4207	-0.0104	0.0489	-0.0117	0.3154	0.2099	0.1054	-2.2645
12	16.02	-0.00	2.5770	-5.2694	-0.0154	0.0626	-0.0072	0.3561	0.2415	0.1146	-2.0450
13	17.05	-0.00	2.6854	-5.2170	-0.0100	0.0664	-0.0150	0.3407	0.2692	0.1114	-1.9430
14	17.05	-0.00	2.6481	-5.2580	-0.0047	0.0583	-0.0132	0.3846	0.2826	0.1020	-1.9488
15	18.07	-0.00	2.7885	-5.1647	-0.0007	0.0751	-0.0192	0.4087	0.3046	0.1041	-1.8521
16	19.11	0.00	2.8445	-4.7423	0.0585	-0.2173	-0.0490	0.4604	0.3276	0.1327	-1.6672
17	20.14	0.00	2.9250	-4.6162	0.0364	-0.1193	-0.0328	0.4869	0.3488	0.1381	-1.5782
18	21.16	-0.01	3.0794	-4.6300	-0.0116	0.0801	-0.0157	0.5168	0.3787	0.1381	-1.5835
19	22.17	-0.01	3.2655	-4.7585	-0.0162	0.1034	-0.0144	0.5255	0.4052	0.1203	-1.4572
20	22.17	-0.01	3.2596	-4.7670	-0.0147	0.1048	-0.0142	0.5264	0.4057	0.1207	-1.4625
21	23.20	-0.01	3.4901	-4.9905	-0.0089	0.0940	-0.0167	0.5310	0.4192	0.1118	-1.4310
22	24.21	-0.01	3.6378	-5.2011	0.0042	0.0765	-0.0225	0.5313	0.4310	0.1003	-1.4065
23	25.23	-0.01	3.9183	-5.4454	0.0415	0.0129	-0.0214	0.5301	0.4347	0.0954	-1.3897
24	26.26	-0.01	4.1396	-5.6779	0.0676	-0.0342	-0.0152	0.5265	0.4511	0.0754	-1.3716
25	27.27	-0.01	4.4071	-6.0007	0.1422	-0.2282	0.0041	0.5215	0.4654	0.0561	-1.3616
26	28.29	-0.00	4.6656	-6.3433	0.2877	-0.4923	0.0260	0.5111	0.4618	0.0493	-1.3596
27	29.30	0.00	4.9656	-6.7299	0.4115	-0.7768	0.0912	0.4928	0.4809	0.0128	-1.3553
28	30.33	0.00	5.2507	-6.9752	0.4584	-0.8575	0.1023	0.4849	0.4876	-0.0027	-1.3284



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RE10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
1 30 0.92 2.3 0.0 B4=0F13 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CV	CLV	CLL	CA	CAB	CAP	KCP
1	-0.01	-0.00	0.0283	-0.1545	-0.0290	0.0912	-0.0080	0.2926	0.1004	0.1923	-5.4637
2	-0.01	-0.00	0.0330	-0.1613	-0.0290	0.0910	-0.0080	0.2914	0.1041	0.1873	-4.8927
3	2.00	-0.00	0.3124	-0.7361	-0.0235	0.0406	-0.0148	0.2849	0.1063	0.1786	-2.3628
4	3.98	-0.00	0.6806	-1.6791	-0.0245	0.0925	-0.0077	0.2800	0.1053	0.1747	-2.4669
5	5.97	-0.00	1.0623	-2.7060	-0.0245	0.0947	-0.0023	0.2795	0.1200	0.1596	-2.5492
6	7.96	-0.00	1.5021	-3.9327	-0.0154	0.0587	-0.0071	0.3000	0.1141	0.1809	-2.6181
7	9.94	-0.00	1.8703	-4.8431	-0.0109	0.0504	-0.0102	0.3234	0.1391	0.1843	-2.5895
8	11.96	-0.00	2.1472	-5.3008	-0.0054	0.0529	-0.0154	0.3458	0.1566	0.1891	-2.4687
9	13.95	-0.01	2.4745	-5.7757	0.0050	0.0552	-0.0157	0.3660	0.1830	0.1830	-2.3341
10	15.99	-0.01	2.7652	-6.0496	0.0218	0.0345	-0.0164	0.3921	0.2148	0.1773	-2.1878
11	17.03	-0.01	2.8460	-5.4451	0.0004	0.0918	-0.0067	0.4114	0.2469	0.1645	-2.0889
12	18.07	-0.00	2.9347	-5.7248	0.0099	0.0176	-0.0214	0.4454	0.2693	0.1762	-1.9507
13	19.08	-0.00	3.0081	-5.4441	0.0465	-0.0916	-0.0348	0.4824	0.2921	0.1903	-1.8165
14	20.10	-0.00	3.1046	-5.2489	0.0584	-0.1424	-0.0394	0.5127	0.3311	0.1815	-1.7033
15	21.14	-0.00	3.3032	-5.3788	0.0350	-0.0941	-0.0296	0.5271	0.3453	0.1818	-1.6284
16	22.15	-0.00	3.4612	-5.5436	0.0268	-0.0076	-0.0188	0.5392	0.3617	0.1775	-1.6016
17	23.20	-0.01	3.7044	-5.6342	-0.0085	0.0759	-0.0173	0.5483	0.3793	0.1690	-1.5209
18	24.22	-0.01	3.9139	-5.8405	0.0098	0.0626	-0.0193	0.5568	0.4015	0.1552	-1.4923
19	25.25	-0.01	4.0449	-5.8245	0.0275	0.0438	-0.0103	0.5520	0.4235	0.1285	-1.4236
20	26.25	-0.01	4.3427	-6.0879	0.0644	-0.0297	0.0003	0.5530	0.4373	0.1158	-1.4019
21	27.31	-0.01	4.6355	-6.1572	0.1576	-0.1890	0.0330	0.5467	0.4523	0.0944	-1.3283
22	28.37	-0.00	4.9080	-5.9985	0.1594	-0.2314	0.0421	0.5404	0.4534	0.0874	-1.2218
23	29.39	-0.00	5.1674	-6.1016	0.2443	-0.3998	0.0527	0.5321	0.4922	0.0399	-1.1897
24	30.47	-0.00	5.5233	-6.0634	0.2022	-0.3235	0.0432	0.5235	0.5100	0.0135	-1.0978
25	30.47	-0.00	5.5206	-5.9753	0.2151	-0.3200	0.0482	0.5216	0.4951	0.0265	-1.0824

TEST PART MACH #X10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1 31 0.94 2.3 0.0 0.400F13 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	HFTA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-0.01	-0.00	0.0278	-0.1675	-0.0273	0.0914	0.0003	0.3144	0.1092	0.2051	-6.0250
2	1.49	-0.00	0.3621	-0.4700	-0.0274	0.0714	0.0038	0.3072	0.1122	0.1900	-2.6786
3	3.98	-0.00	0.7445	-2.0050	-0.0231	0.0874	0.0041	0.3022	0.1211	0.1811	-2.6787
4	5.95	-0.00	1.1453	-3.1264	-0.0192	0.0624	0.0061	0.3062	0.1287	0.1776	-2.7298
5	7.93	-0.00	1.5941	-4.3624	-0.0135	0.0454	0.0061	0.3265	0.1354	0.1911	-2.7408
6	7.93	-0.00	1.4013	-4.4161	-0.0144	0.0485	0.0068	0.3327	0.1387	0.1941	-2.7578
7	9.94	-0.00	1.6773	-4.9167	-0.0115	0.0367	-0.0003	0.3347	0.1571	0.1820	-2.6190
8	9.93	-0.00	1.9606	-5.1515	-0.0169	0.0517	0.0015	0.3550	0.1497	0.2053	-2.6275
9	11.94	-0.00	2.2157	-5.5754	-0.0141	0.0480	0.0045	0.3706	0.1717	0.1990	-2.5118
10	13.95	-0.00	2.5754	-6.2386	-0.0065	0.0507	0.0012	0.3906	0.2191	0.1716	-2.4214
11	15.97	-0.00	2.9480	-6.4481	0.0178	-0.0040	-0.0081	0.4098	0.2455	0.1643	-2.2500
12	17.00	-0.00	2.9845	-6.4232	0.0049	0.0228	-0.0002	0.4270	0.2755	0.1515	-2.1631
13	18.04	-0.01	3.0651	-6.2121	0.0224	0.0139	-0.0091	0.4503	0.2488	0.1515	-2.0267
14	19.06	-0.00	3.1856	-5.9883	0.0264	-0.0085	-0.0153	0.4816	0.3145	0.1670	-1.8791
15	20.11	-0.00	3.1520	-5.4200	0.0430	-0.0820	-0.0234	0.5225	0.3439	0.1786	-1.7195
16	20.10	-0.00	3.2086	-5.6567	0.0403	-0.0845	-0.0246	0.5101	0.3536	0.1565	-1.7635
17	21.13	0.00	3.3845	-5.6832	0.0263	-0.0823	-0.0237	0.5311	0.3689	0.1622	-1.6792
18	22.14	-0.00	3.5430	-5.6832	0.0096	-0.0219	-0.0140	0.5445	0.3894	0.1551	-1.6041
19	23.20	-0.00	3.7611	-5.7739	-0.0048	0.0596	0.0073	0.5582	0.3960	0.1622	-1.5352
20	24.22	-0.00	4.0014	-5.8400	-0.0081	0.0826	0.0084	0.5650	0.4198	0.1452	-1.4720
22	25.27	-0.01	4.2616	-5.4924	0.0428	0.0079	0.0217	0.5648	0.4635	0.1013	-1.4061
23	26.30	-0.00	4.4948	-4.0081	0.1011	-0.1100	0.0392	0.5584	0.4715	0.0869	-1.3352
24	27.36	-0.00	4.8202	-5.4955	0.1745	-0.2679	0.0624	0.5553	0.4795	0.0757	-1.2438
25	28.41	-0.00	5.1291	-5.8868	0.1871	-0.2997	0.0585	0.5481	0.4402	0.0679	-1.1477
26	29.46	0.00	5.4891	-5.7798	0.2163	-0.3737	0.0748	0.5474	0.4855	0.0569	-1.0531
27	30.45	-0.00	5.9368	-5.6716	0.1735	-0.2647	0.0545	0.5349	0.5206	0.0143	-0.9727
28	20.10	0.00	3.2587	-5.8636	0.0573	-0.1698	-0.0316	0.5041	0.4533	0.0508	-1.7094
29	9.93	-0.00	1.9072	-5.0441	-0.0119	0.0446	0.0080	0.3455	0.2498	0.0957	-2.6448
30	-0.01	-0.00	0.0324	-0.1936	-0.0327	0.0940	0.0101	0.3189	0.1461	0.1728	-5.9798

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME RX10-6											
1 32 0.96 2.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-0.01	-0.00	0.0251	-0.1850	-0.0301	0.1021	0.0116	0.3492	0.1091	0.2402	-7.3662
2	1.98	-0.00	0.3794	-1.0886	-0.0272	0.0941	0.0151	0.3424	0.1232	0.2191	-2.8692
3	1.98	-0.00	0.3866	-1.1154	-0.0269	0.0943	0.0150	0.3434	0.1228	0.2206	-2.8861
4	3.96	-0.00	0.7791	-2.1952	-0.0233	0.0790	0.0122	0.3405	0.1276	0.2129	-2.8175
5	5.94	-0.00	1.1953	-3.3830	-0.0180	0.0629	0.0127	0.3469	0.1452	0.2017	-2.8302
6	7.92	-0.00	1.6205	-4.5482	-0.0137	0.0504	0.0098	0.3652	0.1541	0.2111	-2.8066
7	9.91	-0.00	2.0175	-5.5618	-0.0176	0.0501	0.0164	0.3826	0.1472	0.2154	-2.7568
8	11.94	-0.00	2.3126	-6.4502	-0.0125	0.0364	0.0112	0.3876	0.1882	0.1994	-2.5729
9	11.94	-0.00	2.3201	-6.0036	-0.0121	0.0432	0.0112	0.3963	0.1954	0.2009	-2.5877
10	13.94	-0.00	2.6426	-6.5271	-0.0047	0.0345	0.0077	0.4094	0.2232	0.1862	-2.4699
11	13.94	-0.00	2.6785	-6.6368	-0.0024	0.0275	0.0077	0.4166	0.2470	0.1696	-2.4778
12	15.97	-0.00	2.9699	-6.9131	-0.0027	0.0614	0.0220	0.4324	0.2675	0.1644	-2.3121
13	16.96	-0.00	3.1016	-6.9045	0.0115	0.0092	0.0081	0.4359	0.2791	0.1568	-2.2261
14	18.00	-0.00	3.2960	-7.1439	0.0203	-0.0096	0.0013	0.4524	0.2787	0.1737	-2.1674
15	19.04	-0.00	3.4189	-7.0624	0.0212	-0.0096	0.0007	0.4600	0.2918	0.1683	-2.0657
16	20.06	0.00	3.4572	-6.8201	0.0656	-0.1880	-0.0423	0.4835	0.3128	0.1787	-1.9149
17	21.12	0.01	3.6430	-6.4346	0.0652	-0.3051	-0.0542	0.5089	0.3271	0.1818	-1.7663
18	22.16	0.00	3.7089	-6.0510	0.0449	-0.1181	-0.0147	0.5394	0.3549	0.1849	-1.6315
19	22.16	0.00	3.7309	-6.1459	0.0546	-0.1923	-0.0266	0.5330	0.4035	0.1295	-1.6473
20	23.20	-0.00	3.8940	-5.4872	-0.0031	0.0360	0.0133	0.5589	0.4058	0.1530	-1.5375
21	24.23	-0.00	4.1200	-5.4906	0.0259	0.0435	0.0305	0.5463	0.4170	0.1493	-1.4541
22	24.24	-0.00	4.1735	-6.0162	0.0331	0.0214	0.0362	0.5684	0.4261	0.1423	-1.4415
23	25.28	-0.00	4.4543	-6.0706	0.0724	-0.0335	0.0522	0.5714	0.4351	0.1362	-1.3616
24	26.33	-0.00	4.6918	-6.0539	0.1225	-0.1492	0.0668	0.5672	0.4582	0.1089	-1.2903
25	26.33	-0.00	4.7032	-6.0586	0.1214	-0.1427	0.0715	0.5700	0.4629	0.1070	-1.2903
26	27.40	0.00	5.0575	-5.9870	0.1465	-0.2055	0.0895	0.5668	0.4678	0.0989	-1.1838
27	28.48	-0.00	5.3998	-5.8194	0.1342	-0.1692	0.0650	0.5635	0.4737	0.0899	-1.0777
28	29.54	0.00	5.7605	-5.7153	0.1660	-0.2469	0.0766	0.5562	0.4765	0.0797	-0.9922
29	30.61	-0.00	6.1135	-5.6189	0.1441	-0.2145	0.0556	0.5475	0.4972	0.0503	-0.9191
30	20.07	0.00	3.4930	-6.7567	0.0530	-0.1573	-0.0276	0.4792	0.3641	0.1151	-1.9344
31	9.91	-0.00	2.0458	-5.6271	-0.0137	0.0635	0.0230	0.3828	0.2676	0.1151	-2.7505
32	-0.01	-0.00	0.0923	-0.3321	-0.0364	0.1275	0.0179	0.3850	0.1756	0.2095	-3.5977
33	-0.01	-0.00	0.0230	-0.1767	-0.0337	0.0980	0.0164	0.3425	0.1580	0.1845	-7.4458

## ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

## PROPULSION WIND TUNNEL FACILITY(PWT)

## AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 33 0.94 2.3 0.0 B40F13 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAR	CAF	KCP
1	-0.01	-0.00	0.0430	-0.2484	-0.0427	0.1274	0.0179	0.3939	0.1395	0.2544	-5.7860
2	1.94	-0.00	0.4014	-1.1644	-0.0330	0.1061	0.0182	0.3770	0.1488	0.2282	-2.8993
3	3.96	-0.00	0.8044	-2.7623	-0.0215	0.0761	0.0185	0.3688	0.1586	0.2102	-2.7951
4	3.96	-0.00	0.7928	-2.2357	-0.0225	0.0788	0.0167	0.3838	0.1464	0.2374	-2.8198
5	5.94	-0.00	1.2171	-3.4173	-0.0185	0.0689	0.0157	0.3799	0.1739	0.2060	-2.8081
6	5.94	-0.00	1.2190	-3.4264	-0.0204	0.0752	0.0157	0.3896	0.1743	0.2155	-2.8109
7	7.92	-0.00	1.6314	-4.5604	-0.0148	0.0544	0.0144	0.3974	0.1885	0.2090	-2.7954
8	9.91	-0.00	2.0516	-5.6663	-0.0189	0.0516	0.0195	0.4217	0.1994	0.2223	-2.7485
9	11.90	0.00	2.4531	-6.5582	-0.0175	0.0448	0.0243	0.4375	0.2025	0.2350	-2.6734
10	13.93	0.00	2.7046	-6.7895	-0.0163	0.0450	0.0271	0.4323	0.2264	0.2059	-2.5057
11	13.93	0.00	2.7582	-6.9127	-0.0186	0.0575	0.0334	0.4441	0.2293	0.2148	-2.5062
12	15.94	-0.00	3.0875	-7.3173	-0.0030	0.0287	0.0164	0.4591	0.2487	0.2104	-2.3700
13	16.98	-0.00	3.2181	-7.3142	0.0001	0.0300	0.0196	0.4564	0.2730	0.1834	-2.2728
14	16.97	-0.00	3.2833	-7.5350	0.0056	0.0153	0.0132	0.4708	0.2764	0.1943	-2.2949
15	18.01	-0.00	3.4286	-7.5555	0.0058	0.0361	0.0225	0.4729	0.2855	0.1875	-2.2041
16	18.03	-0.00	3.5957	-7.6266	0.0018	0.0340	0.0252	0.4688	0.2958	0.1730	-2.1218
17	20.04	-0.00	3.7706	-7.6927	0.0024	0.0178	0.0196	0.4815	0.2916	0.1899	-2.0482
18	21.08	0.00	3.9678	-7.6825	0.0279	-0.0771	-0.0138	0.4792	0.3131	0.1661	-1.9265
19	22.12	0.00	4.1184	-7.3932	0.0731	-0.2019	-0.0349	0.4934	0.3266	0.1667	-1.7927
20	23.18	0.01	4.2267	-6.4970	0.1244	-0.3442	-0.0490	0.5190	0.3415	0.1775	-1.6318
21	23.18	0.01	4.2431	-7.0255	0.1428	-0.4296	-0.0550	0.5128	0.3512	0.1616	-1.6538
22	24.25	-0.00	4.3743	-6.4123	0.0559	-0.0579	0.0307	0.5625	0.3667	0.1958	-1.4659
23	25.31	-0.00	4.6512	-6.3544	0.0753	-0.0357	0.0532	0.5716	0.4014	0.1701	-1.3663
24	26.35	-0.00	4.9345	-6.2412	0.1031	-0.1122	0.0828	0.5764	0.4284	0.1480	-1.2648
25	26.35	-0.00	4.9705	-6.2840	0.0979	-0.0874	0.0873	0.5748	0.4372	0.1376	-1.2642
26	27.45	0.00	5.2575	-6.0267	0.1499	-0.2037	0.0895	0.5734	0.4577	0.1161	-1.1463
27	27.44	0.00	5.3136	-6.0752	0.1459	-0.1954	0.0924	0.5749	0.4626	0.1123	-1.1433
28	28.52	0.00	5.6990	-5.9319	0.1591	-0.2763	0.0817	0.5686	0.4621	0.1064	-1.0409
29	29.58	0.00	6.0482	-5.9224	0.1819	-0.3087	0.0871	0.5616	0.4755	0.0861	-0.9793
30	30.65	0.00	6.4095	-5.8526	0.1441	-0.2191	0.0557	0.5525	0.4799	0.0726	-0.9178
31	20.05	-0.00	3.9365	-8.6084	0.0015	0.0206	0.0208	0.5057	0.3920	0.1132	-2.0344
32	20.04	-0.00	3.8429	-7.4303	-0.0064	0.0437	0.0292	0.4806	0.3717	0.1089	-2.0376
33	9.90	-0.00	2.0576	-5.6720	-0.0219	0.0543	0.0226	0.4215	0.2719	0.1496	-2.7563
34	-0.01	-0.00	0.0541	-0.2682	-0.0380	0.1297	0.0211	0.3987	0.1778	0.2209	-4.9623

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)    PROPULSION WIND TUNNEL FACILITY (PWT)    AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1    MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MALM RX10-A											
1 34 1.05 2.3 0.0 0.4=0F13 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAR	CAP	XCP
1	-0.01	-0.01	0.0276	-0.2066	-0.0475	0.1631	0.0189	0.5442	0.1533	0.3909	-7.5104
2	-0.01	-0.01	0.0237	-0.1827	-0.0462	0.1611	0.0191	0.5471	0.1804	0.3667	-7.7217
3	-0.01	-0.01	0.0211	-0.1767	-0.0455	0.1605	0.0173	0.5477	0.2068	0.3408	-8.3718
4	-0.01	-0.01	0.0247	-0.1884	-0.0464	0.1596	0.0187	0.5487	0.2085	0.3402	-8.3588
5	1.98	-0.01	0.3908	-1.1216	-0.0364	0.1334	0.0188	0.5475	0.2024	0.3451	-2.8697
6	1.98	-0.01	0.4051	-1.1775	-0.0405	0.1471	0.0205	0.5413	0.2091	0.3322	-2.9065
7	3.96	-0.01	0.8148	-2.3016	-0.0334	0.1309	0.0194	0.5280	0.2162	0.3118	-2.8248
8	5.95	-0.01	1.2350	-3.4652	-0.0293	0.1227	0.0169	0.5257	0.2218	0.3039	-2.8104
9	5.95	-0.01	1.2249	-3.4314	-0.0194	0.1114	0.0182	0.5408	0.2151	0.3258	-2.8014
10	7.91	-0.00	1.6516	-4.5717	-0.0294	0.1023	0.0185	0.5529	0.2281	0.3247	-2.7681
11	7.91	-0.00	1.6388	-4.5485	-0.0325	0.1066	0.0185	0.5507	0.2311	0.3197	-2.7755
12	9.91	-0.00	2.0462	-5.5031	-0.0277	0.0818	0.0199	0.5778	0.2398	0.3388	-2.6894
13	11.91	0.00	2.4528	-6.3718	-0.0252	0.0649	0.0274	0.5854	0.2483	0.3371	-2.5977
14	13.92	0.00	2.4627	-7.1844	-0.0215	0.0504	0.0272	0.5941	0.2586	0.3355	-2.5045
15	15.96	-0.00	3.2212	-7.5486	-0.0106	0.0423	0.0252	0.5900	0.2673	0.3226	-2.3434
16	16.97	-0.00	3.4167	-7.7508	-0.0043	0.0305	0.0231	0.6008	0.2740	0.3248	-2.2885
17	18.00	-0.00	3.6230	-7.9564	0.0009	0.0261	0.0273	0.6039	0.2813	0.3226	-2.1942
18	19.02	-0.00	3.8377	-8.1334	0.0081	0.0181	0.0253	0.6042	0.2944	0.3099	-2.1193
19	20.05	-0.00	4.0705	-8.2832	0.0113	0.0021	0.0278	0.5964	0.3045	0.2920	-2.0349
20	21.09	-0.00	4.3332	-8.3880	0.0137	-0.0004	0.0271	0.5843	0.3125	0.2718	-1.9357
21	22.15	-0.00	4.6168	-8.4177	0.0192	-0.0159	0.0169	0.5731	0.3148	0.2583	-1.8233
22	23.18	-0.00	4.8806	-8.3542	0.0330	-0.0411	0.0127	0.5670	0.3153	0.2517	-1.7117
23	24.23	-0.00	5.1633	-8.2754	0.0343	-0.0240	0.0179	0.5687	0.3270	0.2417	-1.6028
24	25.30	0.00	5.4763	-8.2534	0.0774	-0.1270	0.0376	0.5679	0.3400	0.2279	-1.5672
25	26.39	0.01	5.8025	-8.1636	0.1674	-0.3526	0.0772	0.5604	0.3536	0.2068	-1.4869
26	26.37	0.01	5.7988	-8.1734	0.1564	-0.3351	0.0742	0.5618	0.3583	0.2035	-1.4895
27	27.44	0.01	6.1533	-8.0673	0.1755	-0.3888	0.0837	0.5603	0.3663	0.1940	-1.3111
28	28.50	0.01	6.4547	-7.9347	0.1891	-0.4232	0.0879	0.5538	0.3784	0.1755	-1.2293
29	29.56	0.01	6.7622	-7.8565	0.1625	-0.3566	0.0697	0.5565	0.3812	0.1753	-1.1618
30	30.63	0.00	7.0083	-7.6740	0.1282	-0.2334	0.0506	0.5531	0.3887	0.1644	-1.0957
31	20.05	0.00	4.0447	-8.2318	0.0119	-0.0081	0.0309	0.5984	0.3882	0.2102	-2.0352
32	9.91	-0.00	2.0360	-5.5073	-0.0268	0.0852	0.0230	0.5744	0.3081	0.2664	-2.7058
33	-0.01	-0.01	0.0275	-0.2066	-0.0459	0.1635	0.0202	0.5513	0.2503	0.3011	-7.5185

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)  
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PROPULSION WIND TUNNEL FACILITY(PWT)  
 MARTIN MISSILE TAIL EFFECTS DATA

AERODYNAMIC WIND TUNNEL(AT)

TEST PART NAME RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 35 1.10 2.3 0.0 BAWOF13 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP
1	-0.01	-0.01	0.0222	-0.149A	-0.0486	0.1810	0.0215	0.5783	0.2076	0.3707	-4.7339
2	1.99	-0.01	0.4085	-1.1733	-0.0549	0.2169	0.0222	0.5737	0.1986	0.3751	-2.8721
3	1.98	-0.01	0.3903	-1.096A	-0.0420	0.1718	0.0218	0.5705	0.2211	0.3494	-2.8101
4	3.96	-0.01	0.8122	-2.2903	-0.0475	0.1959	0.0225	0.5646	0.2047	0.3598	-2.8200
5	3.96	-0.01	0.7812	-2.1523	-0.0421	0.1637	0.0221	0.5616	0.2260	0.3355	-2.7551
6	5.96	-0.01	1.1946	-3.2535	-0.0327	0.1404	0.0208	0.5641	0.2256	0.3385	-2.7235
7	7.94	-0.00	1.5956	-4.2900	-0.0324	0.1261	0.0224	0.5767	0.2291	0.3476	-2.6887
8	9.92	-0.00	1.9994	-5.2404	-0.0312	0.1137	0.0240	0.5886	0.2350	0.3536	-2.6204
9	11.94	-0.00	2.3973	-6.0565	-0.0275	0.0989	0.0253	0.5941	0.2400	0.3541	-2.5265
10	13.95	-0.00	2.8061	-6.7962	-0.0239	0.0849	0.0264	0.6026	0.2445	0.3502	-2.4210
11	15.95	-0.00	3.2460	-7.5374	-0.0110	0.0617	0.0260	0.6090	0.2513	0.3567	-2.3222
12	16.97	-0.00	3.6744	-7.8172	-0.0066	0.0620	0.0228	0.6100	0.2591	0.3509	-2.2499
13	18.00	-0.00	3.5975	-7.6780	-0.0036	0.0655	0.0242	0.5998	0.2684	0.3313	-2.1343
14	19.04	-0.00	3.8300	-7.8454	0.0017	0.0451	0.0307	0.5960	0.2721	0.3239	-2.0485
15	20.08	-0.00	4.0854	-8.0065	0.0101	0.0463	0.0241	0.5914	0.2628	0.3087	-1.9598
16	21.11	-0.00	4.3547	-8.1497	0.0136	0.0441	0.0220	0.5843	0.2497	0.2946	-1.8693
17	22.15	-0.00	4.6321	-8.2786	-0.0044	0.0605	0.0274	0.5785	0.3022	0.2763	-1.7872
18	22.17	-0.01	4.6630	-8.1830	0.0103	0.0779	0.0139	0.5758	0.2920	0.2838	-1.7549
19	23.21	-0.01	4.9645	-8.2786	0.0241	0.0455	0.0144	0.5696	0.2998	0.2700	-1.6676
20	24.26	-0.01	5.2591	-8.3097	0.0247	0.0475	0.0204	0.5643	0.3065	0.2577	-1.5801
21	25.33	-0.00	5.6016	-8.2770	0.0468	-0.0147	0.0208	0.5560	0.3037	0.2523	-1.4776
22	26.40	-0.00	6.0067	-8.3764	0.1034	-0.1510	0.0391	0.5489	0.3076	0.2412	-1.3944
23	26.39	-0.00	5.9777	-8.3645	0.1030	-0.1526	0.0421	0.5512	0.3311	0.2201	-1.3993
24	26.39	-0.00	5.9629	-8.3401	0.1086	-0.1589	0.0446	0.5530	0.3499	0.2031	-1.4054
25	27.46	0.00	6.3555	-8.4674	0.1316	-0.2403	0.0599	0.5470	0.3530	0.1939	-1.3324
26	28.53	0.00	6.6795	-8.4472	0.1701	-0.3052	0.0723	0.5394	0.3514	0.1880	-1.2644
27	29.59	0.00	6.9781	-8.4186	0.1579	-0.2837	0.0370	0.5386	0.3525	0.1860	-1.2044
28	30.64	-0.00	7.1999	-8.2243	0.1166	-0.1692	0.0172	0.5425	0.3573	0.1852	-1.1430
29	20.08	-0.00	4.1014	-7.4045	0.0104	0.0515	0.0284	0.5967	0.3405	0.2542	-1.9468
30	9.92	-0.00	2.0005	-5.2495	-0.0308	0.1214	0.0239	0.5869	0.2896	0.2974	-2.6241
31	-0.01	-0.01	0.0262	-0.1693	-0.0532	0.1993	0.0230	0.5820	0.2189	0.3631	-4.4527

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)  
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PROPULSION WIND TUNNEL FACILITY(PWT)  
MARTIN MISSILE TAIL EFFECTS DATA

AERODYNAMIC WIND TUNNEL(AT)

TEST PART MALM RA10-6											
1 3A 1.20 2.3											
PH1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 H40F13 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	PFPA	CP	CLM	CV	CLN	CLL	CA	CAB	CAF	KCP
1	-0.00	-0.00	-0.0009	-0.0400	-0.0284	0.0959	0.0227	0.5694	0.1793	0.3901	50.8254
2	1.00	-0.00	0.3806	-1.0742	-0.0214	0.0771	0.0244	0.5607	0.1777	0.3830	-2.7915
3	3.05	-0.00	0.7644	-2.0614	-0.0170	0.0633	0.0261	0.5519	0.1852	0.3648	-2.6969
4	5.05	-0.00	1.1532	-3.0714	-0.0121	0.0442	0.0248	0.5620	0.1909	0.3711	-2.6405
5	7.05	-0.00	1.5409	-3.9672	-0.0075	0.0311	0.0234	0.5794	0.1955	0.3839	-2.5746
6	9.05	-0.00	1.9365	-4.8015	-0.0039	0.0253	0.0219	0.5936	0.2023	0.3912	-2.4795
7	11.06	-0.00	2.3234	-5.5046	0.0015	0.0159	0.0216	0.6015	0.2085	0.3930	-2.3692
8	13.09	-0.00	2.7144	-6.1044	0.0117	0.0004	0.0183	0.6049	0.2157	0.3892	-2.2463
9	16.01	-0.00	3.1353	-6.6346	0.0101	0.0013	0.0249	0.6064	0.2236	0.3828	-2.1161
10	17.03	-0.00	3.3742	-6.8763	0.0114	-0.0006	0.0245	0.6049	0.2299	0.3751	-2.0355
11	18.08	-0.00	3.6361	-7.0511	0.0099	0.0021	0.0254	0.6011	0.2362	0.3649	-1.9392
12	19.14	-0.00	3.8890	-7.0253	0.0100	0.0141	0.0405	0.5914	0.2418	0.3495	-1.8065
13	20.17	-0.00	4.1737	-7.1385	0.0144	0.0121	0.0383	0.5815	0.2470	0.3345	-1.7103
14	21.22	-0.00	4.4918	-7.2254	0.0133	0.0159	0.0374	0.5761	0.2547	0.3214	-1.6122
15	22.27	-0.00	4.7878	-7.3230	0.0220	0.0171	0.0396	0.5697	0.2607	0.3090	-1.5295
16	23.33	-0.00	5.0463	-7.3564	0.0357	-0.0072	0.0355	0.5630	0.2639	0.2991	-1.4435
17	24.40	-0.00	5.4256	-7.3767	0.0419	-0.0129	0.0325	0.5576	0.2643	0.2933	-1.3599
18	25.46	-0.00	5.7572	-7.4033	0.0540	-0.0479	0.0336	0.5551	0.2676	0.2875	-1.2859
19	26.51	0.00	6.0839	-7.4167	0.0994	-0.1562	0.0441	0.5545	0.2754	0.2791	-1.2191
20	27.56	0.00	6.4248	-7.4647	0.1564	-0.2922	0.0604	0.5573	0.2867	0.2707	-1.1609
21	28.63	0.00	6.7564	-7.5071	0.1511	-0.2691	0.0460	0.5564	0.2947	0.2617	-1.1111
22	29.69	0.00	7.0834	-7.5454	0.2012	-0.3989	0.0188	0.5548	0.3039	0.2509	-1.0709
23	30.74	0.00	7.4445	-7.7239	0.2093	-0.4434	0.0269	0.5529	0.3162	0.2367	-1.0375
24	20.17	-0.00	4.1722	-7.0920	0.0167	0.0093	0.0394	0.5891	0.3087	0.2804	-1.7000
25	20.17	-0.00	4.1679	-7.1161	0.0184	-0.0011	0.0404	0.5870	0.2814	0.3056	-1.7074
26	9.95	-0.00	1.9362	-4.8200	-0.0037	0.0249	0.0219	0.5927	0.2535	0.3392	-2.4894
27	-0.00	-0.00	-0.0009	-0.0512	-0.0272	0.0918	0.0253	0.5700	0.2032	0.3667	50.2523

TEST PART MACM RX10-A											
1 37 1.30 2.3 0.0 040F13 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAP	ICP
1	-0.00	-0.00	-0.0253	0.0000	-0.0251	0.0034	0.0248	0.5350	0.1964	0.3366	-1.0510
2	1.49	-0.00	0.3232	-0.0004	-0.0246	0.0097	0.0249	0.5294	0.1993	0.3301	-2.4881
3	3.97	-0.00	0.6694	-1.0023	-0.0209	0.0908	0.0279	0.5225	0.1978	0.3748	-2.4403
4	5.97	-0.00	1.0492	-2.5469	-0.0175	0.0843	0.0266	0.5333	0.1946	0.3387	-2.4274
5	7.98	-0.00	1.4213	-3.3686	-0.0160	0.0466	0.0254	0.5476	0.1937	0.3539	-2.3701
6	9.99	-0.00	1.8113	-4.1285	-0.0118	0.0794	0.0241	0.5611	0.1938	0.3673	-2.2793
7	12.00	-0.00	2.1995	-4.7765	-0.0068	0.0465	0.0224	0.5713	0.1979	0.3734	-2.1717
8	14.03	-0.00	2.5674	-5.2919	0.0069	0.0330	0.0203	0.5759	0.2031	0.3728	-2.0453
9	16.08	-0.00	3.0351	-5.7480	0.0173	0.0103	0.0220	0.5777	0.2153	0.3624	-1.8938
10	17.12	-0.00	3.2926	-5.9372	0.0111	0.0179	0.0293	0.5764	0.2223	0.3541	-1.8032
11	18.15	-0.00	3.5721	-6.0949	0.0157	0.0069	0.0289	0.5749	0.2278	0.3471	-1.7063
12	19.20	-0.00	3.8664	-6.2246	0.0212	0.0040	0.0309	0.5741	0.2321	0.3421	-1.6099
13	20.25	-0.00	4.1628	-6.3163	0.0275	-0.0068	0.0302	0.5729	0.2367	0.3363	-1.5173
14	21.29	-0.00	4.4497	-6.3394	0.0330	-0.0124	0.0235	0.5670	0.2369	0.3301	-1.4248
15	22.34	-0.00	4.7619	-6.3964	0.0409	-0.0277	0.0235	0.5651	0.2405	0.3248	-1.3437
16	23.41	-0.00	5.0731	-6.4346	0.0390	-0.0254	0.0236	0.5590	0.2430	0.3160	-1.2691
17	24.46	-0.00	5.3897	-6.4610	0.0423	-0.0271	0.0263	0.5578	0.2503	0.3075	-1.2025
18	25.53	-0.00	5.7002	-6.4780	0.0406	-0.0140	0.0218	0.5528	0.2543	0.2985	-1.1365
19	26.60	-0.00	6.0417	-6.5194	0.0450	-0.0127	0.0273	0.5559	0.2612	0.2947	-1.0791
20	27.65	-0.00	6.4092	-6.5846	0.0630	-0.0479	0.0408	0.5572	0.2688	0.2884	-1.0439
21	28.70	-0.00	6.7816	-6.6154	0.0708	-0.0652	0.0369	0.5598	0.2770	0.2828	-1.0197
22	29.76	-0.01	7.1407	-7.1161	0.0678	-0.0469	0.0233	0.5628	0.2855	0.2773	-0.9966
23	30.82	-0.00	7.5030	-7.3411	0.0935	-0.1206	0.0256	0.5629	0.2933	0.2695	-0.9784
24	20.25	-0.00	4.1515	-6.2515	0.0293	-0.0141	0.0313	0.5694	0.2965	0.2729	-1.5058
25	20.25	-0.00	4.1424	-6.2633	0.0313	-0.0223	0.0322	0.5703	0.2834	0.2849	-1.5120
26	9.78	-0.00	1.8135	-4.1274	-0.0097	0.0741	0.0225	0.5588	0.2418	0.3170	-2.2759
27	-0.00	-0.00	-0.0132	0.0221	-0.0285	0.0911	0.0259	0.5397	0.2190	0.3207	-1.6791



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(6T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MALM PK10-6											
1 42 0.80 2.3 0.0 H4=0F16 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	0.00	0.00	0.0101	-0.0104	-0.0017	-0.0048	-0.0042	0.2363	0.0942	0.1421	-1.0272
2	2.01	0.00	0.2805	-0.5829	0.0020	-0.0144	-0.0060	0.2439	0.0942	0.1448	-2.0202
3	4.00	0.00	0.6153	-1.3514	0.0044	-0.0278	-0.0062	0.2542	0.1161	0.1381	-2.1964
4	6.00	0.00	0.6169	-1.3670	0.0047	-0.0234	-0.0061	0.2496	0.1176	0.1320	-2.2157
5	5.99	0.00	0.4731	-2.2412	0.0127	-0.0452	-0.0043	0.2741	0.1171	0.1570	-2.3032
6	7.99	0.00	1.7367	-3.1764	0.0072	-0.0368	0.0014	0.2937	0.1261	0.1676	-2.3763
7	10.00	-0.00	1.5294	-3.3526	-0.0142	0.0435	0.0305	0.3289	0.1389	0.1900	-2.1921
8	12.02	0.00	1.7577	-3.5805	0.0001	-0.0386	0.0076	0.3584	0.1654	0.1934	-2.0370
9	14.04	0.00	2.0434	-3.4375	0.0014	-0.0420	0.0125	0.3783	0.1869	0.1914	-1.9265
10	16.06	0.00	2.3244	-4.2059	0.0086	-0.0717	0.0069	0.3901	0.2248	0.1653	-1.8094
11	17.08	0.00	2.4454	-4.2630	0.0022	-0.0048	0.0084	0.3941	0.2339	0.1603	-1.7433
12	18.10	0.00	2.6141	-4.4112	0.0064	-0.0266	0.0024	0.4130	0.2683	0.1447	-1.6849
13	19.11	0.00	2.7326	-4.3759	0.0454	-0.1373	-0.0155	0.4280	0.3154	0.1125	-1.6014
14	20.13	0.00	2.8405	-4.3025	0.0714	-0.2451	-0.0318	0.4434	0.3336	0.1098	-1.5147
15	21.16	0.00	2.9838	-4.2601	0.0069	-0.0344	-0.0051	0.4751	0.3446	0.1305	-1.4278
16	22.16	-0.01	3.1058	-4.2508	-0.0318	0.2003	0.0201	0.4986	0.3646	0.1340	-1.3667
17	22.18	-0.01	3.1365	-4.3184	-0.0387	0.2463	0.0277	0.5018	0.3817	0.1201	-1.3768
18	23.20	-0.01	3.3051	-4.4057	-0.0272	0.2168	0.0232	0.5119	0.4004	0.1115	-1.3330
19	24.23	-0.01	3.4960	-4.5417	-0.0019	0.1345	0.0148	0.5197	0.4151	0.1046	-1.2991
20	25.24	-0.01	3.6873	-4.6647	0.0240	0.0633	0.0098	0.5223	0.4190	0.1033	-1.2664
21	26.26	-0.01	3.8959	-4.8474	0.1563	-0.1901	0.0077	0.5121	0.4326	0.0794	-1.2442
22	27.28	-0.00	4.1253	-5.0512	0.2569	-0.4478	0.0214	0.5073	0.4576	0.0497	-1.2244
23	28.30	-0.00	4.3500	-5.2741	0.4109	-0.7459	0.0402	0.4965	0.4543	0.0422	-1.2124
24	29.32	0.00	4.6120	-5.5080	0.4401	-0.8763	0.0388	0.4981	0.4646	0.0335	-1.1943
25	30.34	0.01	4.8515	-5.7610	0.6355	-1.3390	0.1067	0.4843	0.4764	0.0079	-1.1875
26	20.13	0.00	2.8616	-4.3682	0.0593	-0.1719	-0.0108	0.4580	0.4223	0.0357	-1.5265
27	9.99	-0.00	1.5344	-3.4357	-0.0116	0.0372	0.0235	0.3229	0.2409	0.0819	-2.2333
28	-0.00	0.00	0.0315	-0.1388	-0.0083	0.0136	-0.0076	0.2392	0.1189	0.1203	-4.4834

TEST PART MALM RX10-6											
1 43 0.85 2.3 0.0 MANOF16 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAH	CAF	ACP
1	-0.00	0.00	0.0178	-0.0416	-0.0044	-0.0001	-0.0093	0.2499	0.1140	0.1359	-4.5701
2	2.00	0.00	0.3023	-0.0661	-0.0002	-0.0141	-0.0112	0.2520	0.1082	0.1437	-2.2034
3	3.99	0.00	0.6356	-1.4730	0.0015	-0.0208	-0.0093	0.2565	0.1086	0.1479	-2.3184
4	5.99	0.00	0.9866	-2.3489	0.0093	-0.0470	-0.0057	0.2673	0.1163	0.1510	-2.3888
5	7.98	0.00	1.3289	-3.1720	0.0146	-0.0646	-0.0006	0.2989	0.1246	0.1743	-2.3870
6	9.99	0.00	1.5385	-3.3975	-0.0133	0.0257	0.0261	0.3415	0.1414	0.2001	-2.2083
7	12.01	0.00	1.7776	-3.6828	0.0047	-0.0528	0.0089	0.3737	0.1593	0.2144	-2.0718
8	14.03	0.00	2.1004	-4.1611	0.0106	-0.0626	0.0103	0.4014	0.1939	0.2075	-1.9811
9	16.06	0.00	2.3817	-4.4413	0.0172	-0.0617	0.0062	0.4177	0.2271	0.1906	-1.8647
10	17.07	0.00	2.5204	-4.5360	0.0197	-0.0623	0.0025	0.4223	0.2716	0.1506	-1.7999
11	18.04	0.00	2.6646	-4.6143	0.0365	-0.1268	-0.0072	0.4348	0.2863	0.1486	-1.7317
12	19.11	0.01	2.7834	-4.5846	0.0672	-0.2518	-0.0283	0.4516	0.3107	0.1409	-1.6671
13	20.14	0.01	2.8966	-4.5203	0.0789	-0.2815	-0.0291	0.4685	0.3309	0.1376	-1.5605
14	21.17	-0.00	3.0270	-4.4200	0.0135	-0.0016	0.0078	0.5021	0.3348	0.1673	-1.4624
15	22.19	-0.01	3.1865	-4.4673	-0.0171	0.1356	0.0224	0.5196	0.3718	0.1478	-1.4011
16	23.20	-0.01	3.3652	-4.5956	-0.0194	0.1512	0.0270	0.5310	0.3799	0.1511	-1.3575
17	24.22	-0.01	3.5840	-4.7431	-0.0014	0.1167	0.0244	0.5355	0.4004	0.1351	-1.3234
18	25.24	-0.01	3.7870	-4.8802	0.0472	0.0141	0.0144	0.5314	0.4212	0.1105	-1.2985
19	26.28	-0.01	3.9934	-5.0469	0.1452	-0.1872	0.0142	0.5224	0.4363	0.0865	-1.2632
20	27.30	-0.00	4.2426	-5.2753	0.2531	-0.4391	0.0257	0.5163	0.4518	0.0644	-1.2434
21	28.33	-0.00	4.4820	-5.5220	0.4192	-0.8021	0.0450	0.5076	0.4518	0.0558	-1.2320
22	29.31	-0.00	4.6687	-5.5054	0.4287	-0.8081	0.0457	0.5078	0.4493	0.0145	-1.2321
23	29.33	0.00	4.7251	-5.7140	0.4111	-0.8041	0.0550	0.5062	0.4476	0.0185	-1.2103
24	30.37	0.01	5.0351	-5.9477	0.4099	-0.8396	0.0835	0.5035	0.4887	0.0148	-1.1412
25	20.13	0.01	2.9015	-4.5192	0.0764	-0.3053	-0.0242	0.4725	0.4472	0.0253	-1.5575
26	9.09	0.00	1.5414	-3.4785	-0.0106	0.0263	0.0244	0.3282	0.2477	0.0805	-2.2567
27	-0.01	0.00	0.0305	-0.1507	-0.0067	0.0090	-0.0073	0.2422	0.1330	0.1092	-4.9407

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH REYNOLDS PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1 44 0.92 2.3 0.0 84.0 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CM	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-0.00	0.00	0.0191	-0.1036	-0.0076	0.0085	-0.0070	0.2571	0.0796	0.1775	-5.4270
2	7.01	0.00	0.3072	-0.5877	-0.0022	-0.0134	-0.0059	0.2594	0.0987	0.1607	-2.2382
3	3.99	0.00	0.6356	-1.5176	0.0064	-0.0792	-0.0038	0.2608	0.1092	0.1516	-2.3868
4	5.96	-0.00	1.0341	-2.5546	-0.0130	0.0617	0.0055	0.2876	0.1016	0.1860	-2.4584
5	7.98	-0.00	1.3117	-3.0771	-0.0125	0.0478	0.0135	0.3159	0.1368	0.1811	-2.3459
6	10.00	0.01	1.5790	-3.5358	0.0205	-0.1048	0.0002	0.3569	0.1585	0.1984	-2.2393
7	12.02	0.00	1.8442	-3.8461	0.0014	-0.0406	0.0135	0.4033	0.1747	0.2285	-2.1084
8	14.02	0.01	2.1820	-4.5029	0.0113	-0.0839	0.0178	0.4339	0.2177	0.2161	-2.0637
9	16.04	0.00	2.4941	-4.9048	0.0171	-0.0614	0.0095	0.4515	0.2651	0.1864	-1.9626
10	16.04	0.00	2.5169	-4.9679	0.0185	-0.0655	0.0062	0.4536	0.2942	0.1694	-1.9738
11	17.04	0.00	2.6841	-5.1731	0.0203	-0.0651	0.0059	0.4635	0.3026	0.1609	-1.9273
12	18.07	0.00	2.8449	-5.3124	0.0264	-0.0788	0.0022	0.4697	0.3274	0.1424	-1.8674
13	19.09	0.00	2.9917	-5.3743	0.0401	-0.1226	-0.0069	0.4760	0.3401	0.1359	-1.7965
14	20.11	0.01	3.1641	-5.2747	0.0899	-0.3750	-0.0432	0.4866	0.3608	0.1259	-1.6903
15	21.15	0.01	3.2781	-5.2744	0.0844	-0.3563	-0.0355	0.5034	0.3668	0.1371	-1.6091
16	21.14	0.01	3.2780	-5.3494	0.0910	-0.3966	-0.0421	0.5049	0.3593	0.1457	-1.6319
17	22.16	0.00	3.3800	-5.1102	0.0217	-0.0418	0.0150	0.5333	0.3805	0.1528	-1.5119
18	23.20	-0.00	3.5936	-5.2443	-0.0028	0.0646	0.0316	0.5478	0.3852	0.1626	-1.4593
19	24.24	-0.00	3.7822	-5.3056	0.0004	0.0862	0.0344	0.5486	0.4099	0.1387	-1.4020
20	25.26	-0.01	4.0149	-5.4243	0.0436	0.0123	0.0281	0.5477	0.4216	0.1241	-1.3494
21	26.29	-0.01	4.2791	-5.5149	0.1335	-0.1640	0.0344	0.5389	0.4426	0.0963	-1.2888
22	27.34	-0.00	4.5664	-5.5429	0.1855	-0.2902	0.0532	0.5273	0.4549	0.0724	-1.2139
23	28.40	-0.00	4.8928	-5.4767	0.1713	-0.2442	0.0549	0.5119	0.4593	0.0526	-1.1193
24	29.47	-0.00	5.2334	-5.4172	0.2101	-0.3393	0.0635	0.4982	0.4642	0.0340	-1.0351
25	29.45	-0.00	5.1915	-5.4181	0.2116	-0.3228	0.0626	0.5022	0.4848	0.0175	-1.0436
26	30.43	-0.00	5.5532	-5.2868	0.1230	-0.1343	0.0357	0.4898	0.5024	-0.0126	-0.9520
27	20.11	0.01	3.1212	-5.3443	0.0842	-0.3617	-0.0362	0.4960	0.4547	0.0413	-1.7123
28	9.99	-0.00	1.5475	-3.5148	0.0085	0.0171	0.0295	0.3418	0.3137	0.0281	-2.2713
29	-0.01	0.00	0.0357	-0.1681	-0.0085	0.0116	-0.0003	0.2526	0.1547	0.0980	-4.7033

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6													
1 45 0.64 2.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0													
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION													
1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0													
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP		
1	-0.01	0.00	0.0235	-0.1321	-0.0074	0.0062	-0.0036	0.2689	0.1002	0.1687	-5.6193		
2	1.99	0.00	0.3188	-0.7755	-0.0029	-0.0010	-0.0085	0.2679	0.1139	0.1539	-2.4322		
3	3.98	0.00	0.6857	-1.7184	0.0027	-0.0147	-0.0067	0.2730	0.1219	0.1511	-2.5068		
4	5.97	-0.00	1.0804	-2.7743	-0.0122	0.0496	-0.0009	0.3025	0.1234	0.1792	-2.5678		
5	7.97	-0.01	1.3876	-3.4330	-0.0634	0.2488	0.0736	0.3435	0.1298	0.2137	-2.4741		
6	10.00	0.00	1.5924	-3.6204	0.0087	-0.0555	-0.0138	0.3715	0.1444	0.2271	-2.2735		
7	12.00	0.00	1.8486	-3.9656	-0.0065	-0.0247	0.0199	0.4080	0.1832	0.2248	-2.1452		
8	14.01	0.01	2.2068	-4.6452	0.0064	-0.0752	0.0225	0.4454	0.2323	0.2131	-2.1049		
9	16.03	0.01	2.5582	-5.1382	0.0020	-0.0731	0.0239	0.4629	0.2786	0.1843	-2.0085		
10	16.03	0.00	2.5953	-5.2941	0.0008	-0.0480	0.0224	0.4669	0.3209	0.1460	-2.0399		
11	17.04	0.00	2.7562	-5.4394	0.0068	-0.0614	0.0172	0.4710	0.3327	0.1383	-1.9735		
12	18.06	0.00	2.9141	-5.5773	0.0094	-0.0661	0.0136	0.4774	0.3422	0.1351	-1.9139		
13	19.06	0.00	3.0688	-5.6513	0.0187	-0.0725	0.0088	0.4815	0.3574	0.1240	-1.8415		
14	20.10	0.00	3.2357	-5.7415	0.0249	-0.1117	-0.0087	0.4905	0.3623	0.1262	-1.7744		
15	21.14	0.01	3.3479	-5.7077	0.0741	-0.3171	-0.0357	0.5048	0.3566	0.1481	-1.6847		
16	22.17	0.01	3.5659	-5.7249	0.0710	-0.3392	-0.0333	0.5153	0.3771	0.1382	-1.6055		
17	23.20	0.00	3.7158	-5.5866	0.0320	-0.0977	0.0105	0.5322	0.3892	0.1429	-1.5040		
18	24.24	-0.00	3.9281	-5.5317	0.0025	0.0404	0.0420	0.5452	0.4021	0.1438	-1.4082		
19	25.26	-0.00	4.1713	-5.5541	0.0497	0.0178	0.0486	0.5444	0.4143	0.1301	-1.3315		
20	26.32	-0.00	4.4124	-5.5647	0.1370	-0.1695	0.0610	0.5339	0.4330	0.1009	-1.2418		
21	27.37	-0.00	4.6728	-5.5227	0.1755	-0.2548	0.0622	0.5218	0.4534	0.0685	-1.1819		
22	28.42	-0.00	5.0541	-5.4527	0.1744	-0.2690	0.0631	0.5175	0.4539	0.0636	-1.0788		
23	29.50	0.00	5.4132	-5.3396	0.2297	-0.3813	0.0826	0.5059	0.4722	0.0337	-0.9864		
24	30.57	-0.00	5.7542	-5.2033	0.1105	-0.1277	0.0418	0.4957	0.4835	0.0122	-0.9043		
25	20.10	0.00	3.2061	-5.4759	0.0331	-0.1348	-0.0090	0.4982	0.4549	0.0333	-1.7703		
26	9.48	0.00	1.6000	-3.7100	0.0055	-0.0477	-0.0137	0.3646	0.3212	0.0434	-2.3187		
27	7.96	-0.01	1.4152	-3.6176	-0.0639	0.2742	0.0739	0.3363	0.2529	0.0834	-2.5562		
28	-0.01	0.00	0.0241	-0.1703	-0.0097	0.0151	0.0046	0.2584	0.1748	0.0840	-7.0638		

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART	MACH	RX10-6	PH1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	4.0	0.90	2.3	0.0	0.40	0.16	0.0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CM	CLM	CY	CLM	CLL	CA	CA0	CAF	KCP
1	-0.01	0.00	0.0711	-0.1396	-0.0095	0.0150	-0.0036	0.2980	0.1072	0.1908	-6.6178
2	1.99	-0.00	0.3337	-0.0630	-0.0044	0.0203	-0.0017	0.2949	0.1143	0.1805	-2.5886
3	3.99	-0.00	0.7021	-1.0229	-0.0034	0.0129	-0.0095	0.3022	0.1238	0.1703	-2.5964
4	5.96	-0.00	1.1216	-2.4404	-0.0025	0.0111	-0.0043	0.3291	0.1317	0.1974	-2.6662
5	5.95	0.00	1.1186	-3.0055	-0.0014	-0.0003	-0.0044	0.3346	0.1332	0.2034	-2.6868
6	7.95	-0.01	1.4370	-3.7041	-0.0455	0.1459	0.0612	0.3686	0.1508	0.2178	-2.5777
7	9.97	-0.01	1.7144	-4.1772	-0.0847	0.3308	0.1241	0.4141	0.1561	0.2581	-2.4289
8	12.01	0.00	1.9243	-4.2304	0.0102	-0.0439	-0.0094	0.4239	0.1912	0.2327	-2.2024
9	14.02	0.01	2.2434	-4.7836	0.0016	-0.0500	0.0257	0.4572	0.2526	0.2047	-2.1321
10	16.02	0.00	2.6358	-5.4794	0.0008	-0.0310	0.0256	0.4861	0.3033	0.1428	-2.0788
11	17.02	0.00	2.8447	-5.7974	0.0021	-0.0208	0.0272	0.4995	0.3189	0.1806	-2.0344
12	18.06	0.00	3.0069	-5.9196	0.0046	-0.0271	0.0237	0.4971	0.3379	0.1592	-1.9687
13	19.07	-0.00	3.2092	-6.0684	0.0369	-0.0094	0.0205	0.5032	0.3401	0.1631	-1.8973
14	20.09	-0.00	3.3722	-6.1494	0.0384	-0.0021	0.0202	0.5095	0.3554	0.1541	-1.8237
15	21.14	-0.00	3.5772	-6.2093	0.0520	-0.0770	0.0172	0.5151	0.3535	0.1617	-1.7358
16	22.16	0.00	3.7313	-6.1075	0.0772	-0.1566	0.0046	0.5136	0.3660	0.1476	-1.6368
17	23.21	-0.00	3.9296	-5.9564	0.0802	-0.0941	0.0380	0.5299	0.3756	0.1543	-1.5159
18	24.24	-0.01	4.1359	-5.8147	0.0575	-0.0715	0.0782	0.5463	0.3888	0.1575	-1.4059
19	25.30	-0.01	4.3667	-5.7066	0.0859	0.0003	0.0765	0.5437	0.4130	0.1307	-1.3123
20	26.35	-0.00	4.6565	-5.6734	0.1536	-0.1447	0.0928	0.5389	0.4246	0.1143	-1.2184
21	27.40	0.00	4.9149	-5.5834	0.1769	-0.2523	0.1034	0.5270	0.4435	0.0835	-1.1368
22	28.46	-0.00	5.3036	-5.4654	0.1133	-0.1105	0.0746	0.5289	0.4479	0.0811	-1.0305
23	29.54	-0.00	5.6178	-5.3579	0.1793	-0.2465	0.0865	0.5161	0.4699	0.0462	-0.9537
24	30.61	-0.00	5.9545	-5.2065	0.1218	-0.1562	0.0529	0.5047	0.4802	0.0245	-0.8744
25	20.10	-0.00	3.3682	-6.1185	0.0383	-0.0132	0.0216	0.5110	0.4231	0.0879	-1.8166
26	9.98	0.00	1.6205	-3.7968	0.0049	-0.0390	0.0043	0.3847	0.3365	0.0482	-2.3430
27	-0.01	0.00	0.0213	-0.1635	-0.0106	0.0164	0.0013	0.3059	0.1649	0.1411	-7.6695

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	PAWT	MACH	PK10-6	PM1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	47	0.98	2-3	0.0	640016	0-0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	KCP	
1	-0.01	0.00	0.0186	-0.1427	-0.0114	0.0161	0.0075	0.3362	0.1176	0.2186	-7.6589	
2	1.99	0.00	0.3330	-0.4429	-0.0090	0.0094	0.0012	0.3341	0.1255	0.2086	-2.5848	
3	3.97	-0.00	0.7109	-1.4748	-0.0031	0.0063	-0.0063	0.3453	0.1368	0.2086	-2.6374	
4	5.94	0.00	1.1189	-3.0124	0.0052	-0.0252	0.0002	0.3697	0.1579	0.2118	-2.6923	
5	7.94	0.00	1.5133	-4.0461	-0.0018	-0.0056	0.0148	0.4127	0.1667	0.2461	-2.6737	
6	9.96	-0.01	1.7423	-4.3505	-0.0745	0.2947	0.1149	0.4445	0.1873	0.2572	-2.4970	
7	11.99	0.00	1.9618	-4.6470	-0.0044	-0.0129	0.0215	0.4541	0.2140	0.2461	-2.2558	
8	14.01	0.00	2.27867	-4.8424	0.0059	-0.0256	0.0211	0.4832	0.2605	0.2227	-2.1400	
9	16.03	0.00	2.7043	-5.0620	0.0185	-0.0267	0.0194	0.5194	0.2925	0.2269	-2.8939	
10	17.03	-0.00	2.9146	-5.4425	0.0164	-0.0135	0.0242	0.5254	0.3214	0.2040	-2.8548	
11	17.03	-0.00	2.9308	-6.0236	0.0222	-0.0183	0.0274	0.5263	0.3182	0.2100	-2.0553	
12	18.03	-0.00	3.1354	-6.2746	0.0277	-0.0138	0.0286	0.5379	0.3330	0.2049	-2.0012	
13	19.06	-0.00	3.3317	-6.4520	0.0344	-0.0279	0.0283	0.5314	0.3449	0.1870	-1.9367	
14	20.09	-0.00	3.5465	-6.5867	0.0512	-0.0561	0.0290	0.5379	0.3439	0.1940	-1.8572	
15	21.12	-0.00	3.7457	-6.8120	0.0605	-0.0840	0.0266	0.5289	0.3521	0.1769	-1.7652	
16	22.16	-0.00	3.9436	-6.9520	0.0761	-0.1303	0.0223	0.5301	0.3620	0.1681	-1.6416	
17	23.21	-0.00	4.1176	-6.3512	0.0951	-0.1216	0.0391	0.5213	0.3803	0.1411	-1.5425	
18	24.28	-0.01	4.3763	-6.2355	0.0631	0.0512	0.0899	0.5425	0.3457	0.1568	-1.4188	
19	25.32	-0.01	4.6302	-6.4464	0.0692	0.1028	0.1282	0.5528	0.3960	0.1568	-1.3043	
20	26.39	-0.00	4.9514	-5.9331	0.1275	-0.0349	0.1536	0.5512	0.4050	0.1462	-1.1983	
21	27.45	-0.00	5.1777	-5.7159	0.1546	-0.1312	0.1324	0.5401	0.4279	0.1122	-1.1039	
22	28.53	-0.01	5.6057	-5.5647	0.1006	-0.0207	0.0807	0.5442	0.4328	0.1115	-0.9926	
23	28.53	-0.01	5.5888	-5.5485	0.1027	-0.0367	0.0825	0.5442	0.4535	0.0907	-0.9920	
24	29.60	-0.00	5.8802	-5.4600	0.1673	-0.1900	0.0956	0.5339	0.4658	0.0689	-0.9287	
25	30.67	-0.00	6.2404	-5.3723	0.1206	-0.1396	0.0668	0.5300	0.4789	0.0511	-0.8609	
26	20.79	-0.00	3.5737	-6.6291	0.0470	-0.0632	0.0367	0.5440	0.4373	0.1067	-1.8558	
27	9.95	-0.01	1.7654	-4.4144	-0.0730	0.3300	0.1139	0.4280	0.3385	0.0894	-2.5085	
28	-0.01	0.00	0.0256	-0.1762	-0.0094	0.0126	0.0091	0.3412	0.1960	0.1451	-6.8722	

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RE10-6											PMT	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
1 4R 1.05 2.3											0.0	84WOF16	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAR	CAP	KCP							
1	-0.01	-0.00	0.0000	-0.0854	-0.0146	0.0406	0.0071	0.4364	0.1786	0.3176	0.0000							
2	1.99	0.00	0.3571	-0.4681	-0.0124	0.0214	0.0072	0.4786	0.1920	0.2867	-2.7109							
3	3.97	0.00	0.7356	-1.4766	-0.0076	0.0174	0.0014	0.4908	0.1920	0.2988	-2.6869							
4	5.96	0.00	1.1307	-3.0242	-0.0034	-0.0025	0.0061	0.5217	0.1942	0.3275	-2.6746							
5	7.94	0.00	1.5204	-4.0350	0.0042	-0.0733	0.0093	0.5586	0.2034	0.3551	-2.6539							
6	9.94	0.00	1.9265	-4.9798	0.0026	-0.0259	0.0171	0.5873	0.2173	0.3699	-2.5822							
7	11.95	0.00	2.2961	-5.6477	-0.0006	-0.0044	0.0310	0.5832	0.2324	0.3508	-2.4815							
8	13.99	-0.00	2.5661	-5.8284	-0.0374	0.1634	0.0836	0.6036	0.2313	0.3723	-2.2713							
9	16.03	-0.00	2.7944	-5.7526	0.0102	-0.0049	0.0233	0.6164	0.2650	0.3518	-2.0549							
10	17.05	0.00	3.0122	-6.0440	0.0178	-0.0707	0.0228	0.6298	0.2785	0.3512	-2.0063							
11	18.07	-0.00	3.2432	-6.3446	0.0266	-0.0305	0.0257	0.6297	0.2959	0.3338	-1.9563							
12	19.09	-0.00	3.4824	-6.5840	0.0396	-0.0553	0.0294	0.6319	0.3063	0.3256	-1.8986							
13	20.11	0.00	3.7215	-6.7487	0.0556	-0.0913	0.0290	0.6273	0.3163	0.3130	-1.8134							
14	21.15	0.00	3.9953	-6.8777	0.0665	-0.1153	0.0326	0.6217	0.3213	0.3004	-1.7214							
15	22.19	0.00	4.2943	-7.0107	0.0794	-0.1443	0.0393	0.6156	0.3338	0.2818	-1.6326							
16	23.23	0.00	4.5691	-7.0664	0.1001	-0.1923	0.0548	0.6096	0.3434	0.2661	-1.5398							
17	24.29	0.01	4.8453	-7.0861	0.1165	-0.2412	0.0793	0.6016	0.3555	0.2461	-1.4479							
18	25.35	0.01	5.2151	-7.0876	0.1336	-0.2723	0.0916	0.5975	0.3678	0.2297	-1.3598							
19	26.41	0.01	5.4942	-6.9853	0.1745	-0.3410	0.1125	0.5879	0.3750	0.2130	-1.2705							
20	27.46	0.01	5.8224	-6.9324	0.1949	-0.3883	0.1205	0.5839	0.3764	0.2075	-1.1907							
21	28.55	0.01	6.1067	-6.7554	0.1341	-0.2263	0.1038	0.5770	0.4011	0.1759	-1.1063							
22	29.62	0.00	6.3797	-6.6300	0.1080	-0.1644	0.0898	0.5725	0.4047	0.1679	-1.0392							
23	30.67	0.00	6.7026	-6.5807	0.1091	-0.1531	0.0744	0.5734	0.4123	0.1611	-0.9818							
24	20.11	0.00	3.7041	-6.7207	0.0575	-0.1013	0.0333	0.6313	0.3985	0.2328	-1.8124							
25	9.93	0.00	1.9374	-5.0768	-0.0012	-0.0080	0.0174	0.5673	0.3202	0.2470	-2.6197							
26	-0.91	0.00	-0.0019	-0.0431	-0.0166	0.0305	0.0084	0.5069	0.2370	0.2699	48.2001							

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	PART	MACH	RX10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	49	1.10	2.3	0.0	44WOF16	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP	
1	-0.01	-0.00	-0.0027	-0.0051	-0.0244	-0.0794	0.0101	-0.5340	0.1859	0.3488	24.4487	
2	1.44	-0.00	0.7432	-0.9111	-0.0171	0.0569	0.0072	-0.5222	0.2101	0.3121	-2.6547	
3	3.97	-0.00	0.7201	-1.8461	-0.0184	0.0473	0.0046	-0.5295	0.2013	0.3283	-2.6329	
4	5.46	-0.00	1.0474	-2.8644	-0.0076	0.0253	0.0090	-0.5458	0.2144	0.3263	-2.6102	
5	7.95	0.00	1.4756	-3.8024	-0.0057	0.0076	0.0135	-0.5691	0.2274	0.3417	-2.5771	
6	9.94	0.00	1.8674	-4.7148	-0.0015	0.0011	0.0165	-0.5872	0.2332	0.3540	-2.5248	
7	11.95	0.00	2.2556	-5.4564	0.0009	0.0044	0.0239	-0.6001	0.2277	0.3724	-2.4190	
8	13.96	0.00	2.6116	-5.9633	-0.0015	0.0067	0.0251	-0.6003	0.2355	0.3646	-2.2834	
9	16.04	-0.00	2.7496	-5.5936	0.0067	0.0243	0.0241	0.6071	0.2453	0.3618	-2.0052	
10	17.07	-0.00	2.9967	-5.8212	0.0150	0.0113	0.0206	0.6167	0.2585	0.3583	-1.9412	
11	18.08	-0.00	3.2284	-6.1165	0.0215	0.0011	0.0188	0.6239	0.2761	0.3478	-1.8946	
12	19.11	-0.00	3.4701	-6.3606	0.0301	-0.0097	0.0258	0.6246	0.2870	0.3376	-1.8330	
13	20.13	-0.00	3.7282	-6.5444	0.0510	-0.0451	0.0281	0.6185	0.2965	0.3220	-1.7555	
14	21.17	-0.00	4.0035	-6.6774	0.0545	-0.0564	0.0287	0.6130	0.3015	0.3115	-1.6680	
15	22.20	-0.00	4.3007	-6.8419	0.0644	-0.0440	0.0339	0.6127	0.3079	0.3048	-1.5909	
16	23.26	0.00	4.6112	-6.9164	0.0732	-0.1110	0.0431	0.6041	0.3135	0.2905	-1.4999	
17	24.32	0.00	4.9408	-6.9907	0.1011	-0.1793	0.0653	0.5968	0.3217	0.2751	-1.4149	
18	25.39	0.00	5.2821	-7.0065	0.1105	-0.1984	0.0694	0.5846	0.3245	0.2600	-1.3265	
19	26.43	0.01	5.6230	-7.1016	0.1542	-0.2485	0.0823	0.5745	0.3371	0.2373	-1.2638	
20	27.50	0.01	5.9412	-7.2081	0.1805	-0.2982	0.0811	0.5751	0.3526	0.2225	-1.2132	
21	28.54	0.00	6.2799	-7.2625	0.1485	-0.2561	0.0815	0.5698	0.3573	0.2125	-1.1565	
22	29.60	-0.00	6.5907	-7.2499	0.0430	-0.1220	0.0494	0.5680	0.3678	0.2002	-1.1000	
23	30.66	-0.00	6.8670	-7.1630	0.0762	-0.0777	0.0408	0.5674	0.3804	0.1869	-1.0431	
24	20.14	-0.00	3.7208	-6.4656	0.0446	-0.0460	0.0294	0.6211	0.3580	0.2631	-1.7377	
25	9.94	0.00	1.8629	-4.8204	-0.0074	0.0202	0.0155	0.5737	0.3052	0.2644	-2.5603	
26	-0.01	-0.00	-0.0023	-0.0877	-0.0214	0.0607	0.0115	0.5382	0.2295	0.3087	38.5093	



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 50 1.20 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.4 0.0 F16 0.0 0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-0.00	0.00	-0.0290	0.0024	-0.0063	-0.0048	0.0103	0.5331	0.1733	0.3597	-1.4651
2	1.99	0.00	0.3308	-0.0047	-0.0040	-0.0114	0.0077	0.5176	0.1809	0.3287	-2.5608
3	3.98	0.00	0.6993	-1.7702	0.0034	-0.0356	0.0091	0.5240	0.1860	0.3380	-2.5312
4	5.97	0.00	1.0581	-2.8688	0.0074	-0.0443	0.0134	0.5448	0.1892	0.3556	-2.5015
5	7.97	0.00	1.4125	-3.4320	0.0110	-0.0604	0.0105	0.5635	0.1931	0.3703	-2.4297
6	9.97	0.00	1.7567	-4.1917	0.0242	-0.0732	0.0118	0.5824	0.1990	0.3834	-2.3461
7	11.96	0.00	2.1584	-4.8684	0.0205	-0.0710	0.0174	0.5902	0.2073	0.3829	-2.2456
8	14.02	0.00	2.5333	-5.3316	0.0205	-0.0505	0.0273	0.5907	0.2085	0.3822	-2.1046
9	16.07	0.00	2.9226	-5.7012	0.0253	-0.0507	0.0223	0.5910	0.2114	0.3796	-1.9507
10	17.10	-0.00	3.0608	-5.5598	0.0008	-0.0684	0.0835	0.5915	0.2175	0.3740	-1.8165
11	18.13	0.00	3.2620	-5.5786	0.0262	-0.0161	0.0576	0.5896	0.2224	0.3672	-1.7096
12	19.14	-0.00	3.4942	-5.5756	0.0440	-0.0667	0.0087	0.5866	0.2339	0.3527	-1.5957
13	20.21	-0.00	3.7865	-5.7623	0.0438	-0.0569	0.0111	0.5887	0.2452	0.3435	-1.5218
14	21.27	-0.00	4.0951	-5.9028	0.0497	-0.0672	0.0157	0.5869	0.2545	0.3324	-1.4414
15	22.33	-0.00	4.4116	-6.0443	0.0638	-0.0421	0.0187	0.5861	0.2664	0.3197	-1.3701
16	23.36	-0.00	4.7338	-6.1946	0.0778	-0.1243	0.0243	0.5876	0.2776	0.3100	-1.3086
17	23.36	-0.00	4.7208	-6.1521	0.0725	-0.1147	0.0213	0.5859	0.2780	0.3079	-1.3032
18	24.42	0.00	5.0645	-6.2687	0.0985	-0.1737	0.0309	0.5834	0.2851	0.2983	-1.2370
19	25.48	0.00	5.4037	-6.3556	0.1374	-0.2497	0.0462	0.5814	0.2935	0.2878	-1.1761
20	26.55	0.00	5.7870	-6.4990	0.1549	-0.3028	0.0499	0.5751	0.2994	0.2757	-1.1230
21	27.60	0.01	6.1491	-6.6592	0.1863	-0.3802	0.0595	0.5692	0.3052	0.2640	-1.0830
22	28.64	0.01	6.4594	-6.7570	0.1855	-0.3732	0.0583	0.5598	0.3191	0.2408	-1.0461
23	29.70	0.00	6.8047	-6.8195	0.1900	-0.3731	0.0511	0.5578	0.3171	0.2447	-1.0022
24	30.77	0.00	7.1684	-6.9543	0.1980	-0.3607	0.0485	0.5562	0.3231	0.2332	-0.9701
25	20.22	0.00	3.7835	-5.6755	0.0454	-0.0792	0.0176	0.5970	0.3200	0.2771	-1.5001
26	9.97	0.00	1.7465	-4.2659	0.0136	-0.0561	0.0148	0.5760	0.2682	0.3078	-2.3745
27	-0.00	0.00	-0.0266	0.0215	-0.0053	-0.0098	0.0145	0.5321	0.2034	0.3287	-0.8869

TEST	PART	MACH	RE10-6	PH1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
1	51	1.30	2.3	0.0	W440F16	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	KCP
1	0.00	0.00	-0.0342	0.0764	-0.0080	0.0034	0.0141	0.4968	0.1478	0.3289	-2.2506
2	2.00	0.00	0.7457	-0.7041	-0.0099	0.0164	0.0144	0.4856	0.1753	0.3103	-2.3612
3	3.94	0.00	0.6366	-1.5005	-0.0077	0.0107	0.0132	0.4905	0.1751	0.3153	-2.3549
4	6.00	0.00	0.9784	-2.2666	-0.0134	0.0066	0.0132	0.5071	0.1749	0.3322	-2.3167
5	7.99	0.00	1.3272	-2.9833	-0.0007	0.0010	0.0133	0.5283	0.1806	0.3477	-2.2478
6	10.01	0.00	1.6903	-3.4484	0.0053	-0.0158	0.0130	0.5474	0.1850	0.3625	-2.1585
7	12.02	0.00	2.0664	-4.2454	0.0123	-0.0268	0.0140	0.5628	0.1923	0.3704	-2.0541
8	14.07	0.00	2.4613	-4.7222	0.0230	-0.0404	0.0145	0.5722	0.2012	0.3710	-1.9186
9	16.12	0.00	2.8617	-5.0413	0.0326	-0.0713	0.0150	0.5691	0.2077	0.3614	-1.7616
10	17.14	0.00	3.0966	-5.1737	0.0300	-0.0636	0.0187	0.5665	0.2120	0.3545	-1.6788
11	18.16	0.00	3.3664	-5.2464	0.0246	-0.0569	0.0224	0.5646	0.2173	0.3473	-1.5737
12	19.23	0.00	3.6493	-5.4161	0.0360	-0.0683	0.0201	0.5599	0.2232	0.3367	-1.4841
13	20.27	0.00	3.9304	-5.5263	0.0503	-0.1023	0.0215	0.5561	0.2295	0.3266	-1.4060
14	20.29	0.00	3.9354	-5.4904	0.0474	-0.0475	0.0199	0.5542	0.2325	0.3217	-1.3953
15	21.33	0.00	4.1954	-5.4268	0.0491	-0.0719	0.0493	0.5537	0.2340	0.3197	-1.2938
16	22.36	0.00	4.4548	-5.4107	0.0708	-0.1395	0.0239	0.5555	0.2361	0.3194	-1.2146
17	23.44	0.00	4.7741	-5.5274	0.0789	-0.1525	0.0241	0.5554	0.2395	0.3163	-1.1570
18	24.48	0.00	5.0983	-5.5818	0.0957	-0.1748	0.0256	0.5565	0.2459	0.3106	-1.1144
19	25.55	0.00	5.4616	-5.8556	0.1030	-0.1960	0.0281	0.5566	0.2566	0.3000	-1.0721
20	26.60	0.00	5.8283	-5.7386	0.1254	-0.2468	0.0317	0.5562	0.2684	0.2878	-1.0361
21	27.67	0.00	6.2073	-6.2448	0.1235	-0.2469	0.0373	0.5559	0.2707	0.2851	-1.0069
22	28.72	-0.00	6.5877	-6.4786	0.1137	-0.1905	0.0314	0.5583	0.2766	0.2817	-0.9834
23	29.77	-0.00	6.9449	-6.6854	0.1115	-0.1852	0.0218	0.5599	0.2822	0.2776	-0.9627
24	30.82	-0.00	7.3027	-6.8430	0.1074	-0.1770	0.0193	0.5594	0.2885	0.2709	-0.9439
25	20.28	0.00	3.9291	-5.4214	0.0472	-0.1116	0.0237	0.5590	0.2700	0.2848	-1.3708
26	10.00	0.00	1.6922	-3.6619	0.0075	-0.0106	0.0144	0.5444	0.2380	0.3068	-2.1758
27	-0.00	0.00	-0.0341	0.0567	-0.0091	0.0030	0.0156	0.5002	0.2052	0.2951	-1.6686

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 57 0.00 2.3 0.0 0.0 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-0.00	0.00	0.0101	-0.0280	-0.0099	0.0164	0.0033	0.2189	0.0965	0.1225	-2.7874
2	2.00	-0.00	0.1954	-0.2394	-0.0079	0.0149	0.0011	0.2192	0.0972	0.1220	-1.2273
3	4.03	-0.00	0.3942	-0.5066	-0.0058	0.0169	0.0026	0.2214	0.1015	0.1203	-1.2852
4	6.03	-0.00	0.6122	-0.8375	-0.0060	0.0240	0.0042	0.2289	0.1102	0.1188	-1.3688
5	8.03	-0.00	0.8530	-1.2146	-0.0045	0.0217	0.0040	0.2414	0.1180	0.1234	-1.4308
6	10.08	0.00	1.1157	-1.6134	-0.0068	0.0135	0.0054	0.2508	0.1262	0.1246	-1.4461
7	12.07	0.00	1.3824	-1.9781	-0.0114	0.0170	0.0104	0.2552	0.1304	0.1244	-1.4309
8	14.04	0.00	1.6641	-2.2483	-0.0185	0.0241	0.0099	0.2539	0.1508	0.1031	-1.3766
10	16.15	0.00	1.9188	-2.4542	-0.0109	0.0055	-0.0003	0.2506	0.1595	0.0911	-1.2798
11	17.14	-0.00	2.0466	-2.4954	-0.0206	0.0538	0.0069	0.2498	0.1599	0.0899	-1.2193
12	18.17	-0.00	2.2018	-2.6292	-0.0189	0.0528	0.0046	0.2505	0.1646	0.0858	-1.1941
13	19.17	-0.00	2.3643	-2.7567	-0.0150	0.0442	0.0023	0.2480	0.1772	0.0709	-1.1668
14	20.17	-0.00	2.5197	-2.8825	-0.0120	0.0413	0.0037	0.2461	0.1838	0.0623	-1.1440
15	21.20	-0.00	2.6820	-2.9784	-0.0103	0.0384	0.0031	0.2417	0.1903	0.0514	-1.1107
17	22.22	0.00	2.8795	-3.0562	0.0075	-0.0140	0.0056	0.2351	0.2047	0.0304	-1.0801
18	23.23	0.00	3.0151	-3.1338	0.0367	-0.0866	0.0062	0.2274	0.2148	0.0127	-1.0394
19	24.27	0.00	3.1675	-3.1452	0.0606	-0.1318	0.0177	0.2207	0.2205	0.0001	-0.9938
20	25.29	0.00	3.3306	-3.1261	0.0994	-0.2003	0.0452	0.2146	0.2267	-0.0121	-0.9386
21	26.32	0.00	3.5044	-3.1326	0.1087	-0.2156	0.0569	0.2104	0.2383	-0.0279	-0.8939
22	27.32	0.01	3.6747	-3.1352	0.2217	-0.4479	0.1047	0.2103	0.2474	-0.0372	-0.8532
23	28.39	0.02	3.8516	-3.1204	0.4866	-1.0529	0.1581	0.2193	0.2600	-0.0406	-0.8102
24	28.40	0.02	3.8654	-3.1150	0.5075	-1.0904	0.1664	0.2218	0.3064	-0.0846	-0.8110
25	29.40	0.02	4.0694	-3.2573	0.4511	-0.9966	0.1459	0.2012	0.3025	-0.1013	-0.8804
26	30.40	0.02	4.2886	-3.3745	0.5617	-1.2079	0.1569	0.1827	0.3007	-0.1180	-0.7868
27	20.18	0.00	2.4922	-2.8736	-0.0072	0.0166	0.0198	0.2343	0.1917	0.0423	-1.1531
28	10.34	0.00	1.0953	-1.6671	-0.0071	-0.0541	0.0234	0.2452	0.1545	0.0906	-1.5220
29	-0.01	0.00	0.0057	-0.0960	-0.0111	0.0026	0.0193	0.2240	0.1087	0.1152	-16.7928

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4F)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 SA 0.05 2.3											
PH1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.0022 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAR	CAP	ACP
1	-0.01	0.00	0.0030	-0.0014	-0.0109	-0.0015	0.0205	0.2306	0.0751	0.1555	-26.7981
2	-0.00	0.00	0.0054	-0.0065	-0.0121	0.0063	0.0188	0.2301	0.0935	0.1366	-14.0755
3	2.01	0.00	0.1825	-0.2642	-0.0096	0.0011	0.0201	0.2317	0.1014	0.1303	-1.4754
4	4.03	0.00	0.3801	-0.5346	-0.0070	0.0030	0.0182	0.2346	0.1045	0.1301	-1.4194
5	6.04	0.00	0.6038	-0.8870	-0.0062	0.0032	0.0214	0.2414	0.1091	0.1323	-1.4691
6	8.04	0.00	0.8429	-1.2662	-0.0064	-0.0045	0.0246	0.2496	0.1213	0.1284	-1.5022
7	10.04	0.00	1.1071	-1.6766	-0.0074	-0.0069	0.0261	0.2595	0.1317	0.1278	-1.5162
8	12.07	0.00	1.3422	-2.0644	-0.0131	-0.0092	0.0325	0.2602	0.1412	0.1190	-1.4938
9	14.10	0.00	1.6704	-2.3818	-0.0187	0.0036	0.0339	0.2576	0.1532	0.1044	-1.4259
10	16.12	0.00	1.9244	-2.5466	-0.0146	-0.0036	0.0223	0.2484	0.1559	0.0926	-1.3199
11	17.16	0.00	2.0600	-2.5893	-0.0190	0.0359	0.0291	0.2484	0.1587	0.0897	-1.2569
12	18.18	0.00	2.2049	-2.7022	-0.0222	0.0356	0.0251	0.2484	0.1684	0.0799	-1.2233
13	19.17	0.00	2.3817	-2.8436	-0.0144	0.0253	0.0248	0.2480	0.1844	0.0636	-1.1939
15	20.18	0.00	2.5420	-2.9484	-0.0104	0.0279	0.0260	0.2455	0.2005	0.0450	-1.1599
16	21.20	0.00	2.7066	-3.0263	-0.0075	0.0237	0.0236	0.2430	0.2023	0.0407	-1.1180
17	22.22	0.00	2.8612	-3.0634	0.0121	-0.0319	0.0206	0.2372	0.2134	0.0238	-1.0708
18	23.26	0.00	3.0314	-3.0842	0.0437	-0.1066	0.0209	0.2344	0.2186	0.0158	-1.0191
19	24.27	0.00	3.1985	-3.0771	0.0598	-0.1399	0.0321	0.2283	0.2323	-0.0040	-0.9620
20	25.33	0.00	3.3642	-3.0460	0.0428	-0.1786	0.0554	0.2240	0.2439	-0.0199	-0.9054
21	26.36	0.00	3.5354	-3.0606	0.1134	-0.2213	0.0701	0.2180	0.2584	-0.0404	-0.8657
22	27.36	0.01	3.7343	-3.0448	0.1860	-0.3707	0.1112	0.2146	0.2613	-0.0467	-0.8274
23	28.41	0.02	3.9154	-3.1223	0.4584	-0.9905	0.1706	0.2181	0.2696	-0.0515	-0.7974
24	29.42	0.01	4.1711	-3.2624	0.4198	-0.8795	0.1433	0.1959	0.3008	-0.1050	-0.7773
25	30.47	0.01	4.4101	-3.2882	0.4535	-0.9342	0.1319	0.1750	0.3021	-0.1272	-0.7456
26	20.20	0.00	2.5301	-2.9213	-0.0117	0.0133	0.0361	0.2513	0.2497	0.0016	-1.1546
27	10.04	0.00	1.1106	-1.7427	-0.0094	-0.0060	0.0364	0.2536	0.1662	0.0874	-1.5691
28	-0.01	0.00	0.0008	-0.1077	-0.0144	0.0015	0.0327	0.2288	0.1130	0.1158	-136.9631

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST WART MALM RX10-6    PMI CONF    L    DEL1    DEL2    DEL3    DEL4    TRANSITION  
 1    61 0.42 2.3    0.0 M4WOF22    0.0    0    0    0    0    UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAP	KCP
1	-0.00	0.00	0.0185	-0.0484	-0.0033	-0.0092	0.0076	0.2494	0.1035	0.1459	-2.9347
2	2.02	0.00	0.1957	-0.2403	-0.0060	0.0057	0.0057	0.2480	0.1069	0.1411	-1.2278
3	4.03	0.00	0.4058	-0.5501	-0.0014	0.0017	0.0055	0.2535	0.1102	0.1433	-1.3556
4	6.05	0.00	0.6436	-0.9576	0.0034	-0.0071	0.0086	0.2659	0.1145	0.1514	-1.4878
5	8.04	0.00	0.9041	-1.4267	0.0040	-0.0137	0.0100	0.2786	0.1267	0.1519	-1.5781
6	10.06	0.00	1.1778	-1.8713	0.0104	-0.0322	0.0112	0.2863	0.1364	0.1498	-1.5888
7	12.06	0.00	1.4604	-2.2712	0.0065	-0.0277	0.0159	0.2849	0.1425	0.1423	-1.5546
8	14.09	0.00	1.7483	-2.5927	-0.0053	-0.0009	0.0188	0.2814	0.1449	0.1365	-1.4838
9	16.11	-0.00	2.0443	-2.8641	-0.0178	0.0532	0.0185	0.2805	0.1419	0.1186	-1.4010
10	17.16	0.00	2.1691	-2.8479	-0.0064	0.0095	0.0076	0.2788	0.1842	0.0946	-1.3129
11	18.18	0.00	2.3262	-2.4230	-0.0091	0.0248	0.0086	0.2878	0.1787	0.1091	-1.2566
12	19.19	-0.00	2.4758	-3.0161	-0.0112	0.0433	0.0084	0.2858	0.2244	0.0614	-1.2182
13	20.21	-0.00	2.6188	-3.0455	0.0074	-0.0056	0.0042	0.2792	0.2311	0.0481	-1.1740
14	21.23	-0.00	2.8041	-3.1140	-0.0080	0.0272	0.0003	0.2852	0.2310	0.0542	-1.1105
15	22.26	-0.00	2.9501	-3.0832	0.0015	-0.0076	-0.0075	0.2772	0.2417	0.0355	-1.0451
16	23.30	-0.00	3.1197	-3.0788	0.0191	-0.0403	-0.0102	0.2753	0.2485	0.0268	-0.9869
17	24.32	0.00	3.3142	-3.0245	0.0334	-0.0752	-0.0050	0.2710	0.2606	0.0104	-0.9141
18	25.35	-0.00	3.5002	-2.4776	0.0806	-0.1543	0.0049	0.2621	0.2806	-0.0185	-0.8507
19	26.40	0.00	3.6647	-2.9459	0.1188	-0.2249	0.0268	0.2526	0.2846	-0.0320	-0.8040
20	27.45	0.00	3.9731	-2.6247	0.1478	-0.2689	0.0312	0.2442	0.2924	-0.0482	-0.7109
22	29.58	-0.01	4.5567	-2.4319	0.2815	-0.4542	0.0378	0.2288	0.3148	-0.0860	-0.5337
23	30.65	-0.01	4.9069	-2.1439	0.1654	-0.2346	0.0103	0.2156	0.3192	-0.1036	-0.4369
25	10.06	0.00	1.1757	-1.9407	0.0071	-0.0240	0.0213	0.2793	0.1871	0.0923	-1.6506
28	-0.00	0.00	0.0073	-0.0551	-0.0057	-0.0098	0.0240	0.2459	0.1047	0.1413	-7.5479

ARNOLD ENGINEERING DEVELOPMENT CENTER(AECC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RK10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 62 0.98 2-3 0.0 H4=0F22 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	ACP
1	-0.00	0.00	0.0045	-0.0380	-0.0065	0.0035	0.0232	0.3107	0.1188	0.1918	-0.4169
2	7.02	0.00	0.2054	-0.3038	-0.0045	-0.0024	0.0228	0.3097	0.1297	0.1800	-1.4752
3	4.01	0.00	0.4109	-0.6177	-0.0012	-0.0067	0.0243	0.3111	0.1267	0.1644	-1.5034
4	6.05	0.00	0.6514	-1.0078	-0.0019	-0.0033	0.0257	0.3195	0.1332	0.1863	-1.5472
5	8.04	0.00	0.9022	-1.4167	0.0020	-0.0084	0.0269	0.3419	0.1455	0.1964	-1.5703
6	10.05	0.00	1.1736	-1.8306	0.0038	-0.0160	0.0267	0.3499	0.1701	0.1797	-1.5595
7	10.05	0.00	1.1678	-1.8287	0.0049	-0.0120	0.0282	0.3493	0.1808	0.1685	-1.5660
8	12.09	0.00	1.4568	-2.1452	0.0001	-0.0132	0.0310	0.3509	0.1902	0.1606	-1.5869
9	14.11	0.00	1.7561	-2.5154	-0.0120	0.0159	0.0352	0.3565	0.2209	0.1356	-1.4324
10	16.15	0.00	2.0661	-2.7755	-0.0206	0.0463	0.0345	0.3582	0.2293	0.1289	-1.3433
11	17.16	0.00	2.2411	-2.9353	-0.0191	0.0514	0.0329	0.3524	0.2422	0.1102	-1.3898
12	17.16	0.00	2.2315	-2.9227	-0.0201	0.0527	0.0312	0.3518	0.2431	0.1087	-1.3097
13	18.15	0.00	2.4062	-3.0426	-0.0171	0.0577	0.0322	0.3601	0.2405	0.1196	-1.2635
14	19.19	0.00	2.5475	-3.1717	-0.0229	0.0737	0.0318	0.3525	0.2561	0.0964	-1.2210
15	20.23	-0.00	2.7832	-3.2184	-0.0297	0.0958	0.0200	0.3439	0.2587	0.0853	-1.1564
16	21.25	-0.00	2.9465	-3.2165	-0.0075	0.0743	0.0220	0.3470	0.2576	0.0894	-1.0734
17	22.29	-0.00	3.1928	-3.1500	0.0303	-0.0168	0.0234	0.3410	0.2742	0.0668	-0.9867
18	23.35	-0.00	3.4042	-2.9972	0.0718	-0.0472	0.0310	0.3328	0.2861	0.0467	-0.8792
19	24.41	-0.00	3.6771	-2.9183	0.0810	-0.1112	0.0277	0.3240	0.2928	0.0312	-0.7936
20	25.46	-0.00	3.9153	-2.8034	0.0921	-0.1322	0.0245	0.3125	0.3030	0.0094	-0.7160
21	26.51	-0.00	4.1651	-2.6482	0.1146	-0.1478	0.0260	0.3052	0.3080	-0.0028	-0.6328
22	27.59	-0.01	4.5634	-2.4443	0.1205	-0.1700	0.0255	0.3034	0.3094	-0.0056	-0.5368
23	28.66	-0.01	4.8552	-2.2354	0.1300	-0.1243	0.0235	0.2962	0.3153	-0.0191	-0.4604
24	29.74	-0.01	5.2404	-2.0814	0.2047	-0.2000	0.0303	0.2979	0.3228	-0.0249	-0.3972
25	30.91	-0.00	5.5514	-1.9690	0.1645	-0.2476	0.0307	0.2771	0.3265	-0.0494	-0.3547
26	20.24	-0.00	2.7865	-3.1661	-0.0404	0.1136	0.0278	0.3580	0.3083	0.0497	-1.1362
27	10.06	0.00	1.1765	-1.8763	0.0040	-0.0070	0.0314	0.3481	0.2082	0.1398	-1.5948

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 64 1.10 2.3 0.0 0.470F22 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	REFA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	0.00	-0.00	0.0011	0.0235	-0.0133	0.0355	0.0067	0.4805	0.1871	0.2934	20.6462
2	2.02	-0.00	0.2145	-0.2094	-0.0220	0.0444	0.0068	0.4853	0.1859	0.2994	-1.2559
3	2.02	-0.00	0.2032	-0.2380	-0.0127	0.0401	0.0049	0.4806	0.1986	0.2820	-1.1712
4	4.03	-0.00	0.4173	-0.5251	-0.0179	0.0689	0.0063	0.4818	0.1897	0.2921	-1.2585
5	6.05	-0.00	0.6454	-0.8365	-0.0105	0.0493	0.0073	0.4911	0.1955	0.2956	-1.2960
6	8.07	-0.00	0.8403	-1.1625	-0.0099	0.0502	0.0069	0.5072	0.1948	0.3124	-1.3050
7	8.07	-0.00	0.8880	-1.1872	-0.0018	0.0330	0.0055	0.5016	0.2148	0.2868	-1.3369
8	10.10	-0.00	1.1446	-1.4976	0.0040	0.0243	0.0079	0.5082	0.2248	0.2834	-1.3084
9	12.11	-0.00	1.4146	-1.7720	0.0059	0.0196	0.0072	0.5066	0.2268	0.2799	-1.2483
10	14.15	-0.00	1.7249	-2.0195	0.0019	0.0253	0.0123	0.5050	0.2331	0.2719	-1.1708
11	16.16	-0.00	2.0507	-2.2145	-0.0153	0.0712	0.0100	0.5030	0.2389	0.2640	-1.0799
12	17.23	-0.00	2.2244	-2.2678	-0.0187	0.0892	0.0080	0.5005	0.2484	0.2521	-1.0195
13	18.25	-0.00	2.4160	-2.3340	-0.0177	0.0990	0.0058	0.4958	0.2608	0.2349	-0.9681
14	19.27	-0.01	2.6167	-2.3821	-0.0204	0.1192	0.0022	0.4894	0.2649	0.2246	-0.9103
15	20.33	-0.01	2.8457	-2.3760	-0.0328	0.1434	-0.0031	0.4821	0.2745	0.2075	-0.8349
17	22.43	-0.01	3.1246	-2.4350	-0.0107	0.0974	0.0001	0.4633	0.2852	0.1781	-0.7313
18	22.43	-0.01	3.3431	-2.3637	0.0010	0.1025	-0.0045	0.4610	0.2764	0.1846	-0.7070
19	23.47	-0.01	3.5993	-2.3504	0.0055	0.0641	0.0030	0.4503	0.2802	0.1701	-0.6531
20	24.52	-0.01	3.8751	-2.2655	0.0164	0.0626	0.0043	0.4423	0.2811	0.1612	-0.5890
21	25.57	-0.01	4.1757	-2.1744	0.0223	0.0473	0.0039	0.4358	0.2788	0.1570	-0.5207
22	26.62	-0.01	4.4748	-2.1103	0.0583	0.0002	0.0080	0.4293	0.2888	0.1405	-0.4716
23	27.69	-0.01	4.7983	-2.0614	0.0853	-0.0298	0.0077	0.4269	0.2945	0.1324	-0.4296
24	28.79	-0.01	5.1374	-2.0334	0.0811	-0.0450	0.0027	0.4229	0.2900	0.1320	-0.3959
25	29.86	-0.01	5.4170	-1.9422	0.1411	-0.1916	0.0075	0.4182	0.2938	0.1244	-0.3678
26	30.88	-0.00	5.7076	-1.9757	0.1334	-0.2076	0.0071	0.4142	0.3038	0.1104	-0.3462
27	20.34	-0.01	2.8306	-2.3663	-0.0338	0.1614	0.0012	0.4827	0.2895	0.1932	-0.8148
28	10.07	-0.00	1.1462	-1.5156	0.0041	0.0255	0.0109	0.5047	0.2656	0.2391	-1.3200
29	0.00	-0.00	-0.0009	0.0154	-0.0133	0.0335	0.0126	0.4761	0.2037	0.2724	-18.0271

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	PART	MACH	RE10-6	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	65	1.20	2.3	0.0	04=0F22	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP	
1	0.01	0.00	-0.0173	0.1043	-0.0051	-0.0039	0.0128	0.4761	0.1800	0.2980	-0.0400	
2	2.02	0.00	0.1853	-0.1339	-0.0042	-0.0044	0.0127	0.4748	0.1660	0.3088	-0.7223	
3	4.05	0.00	0.3473	-0.3442	-0.0019	-0.0065	0.0138	0.4724	0.1668	0.3055	-0.9921	
4	6.05	0.00	0.6214	-0.6597	0.0004	-0.0104	0.0147	0.4833	0.1727	0.3105	-1.0607	
5	8.10	0.00	0.8586	-0.9227	0.0059	-0.0186	0.0141	0.4931	0.1810	0.3120	-1.0747	
6	10.11	0.00	1.0917	-1.1627	0.0053	-0.0213	0.0164	0.4917	0.1891	0.3026	-1.0651	
7	12.14	0.00	1.3750	-1.3904	0.0152	-0.0267	0.0141	0.4865	0.1965	0.2900	-1.0112	
8	14.19	0.00	1.6887	-1.5424	0.0125	-0.0243	0.0147	0.4866	0.1986	0.2880	-0.9430	
9	16.20	0.00	1.7091	-1.5475	0.0176	-0.0344	0.0144	0.4874	0.2026	0.2848	-0.9347	
10	18.24	-0.00	2.0462	-1.7563	-0.0095	0.0379	0.0180	0.4881	0.2070	0.2811	-0.8575	
11	17.27	-0.00	2.2443	-1.7979	-0.0154	0.0430	0.0145	0.4866	0.2091	0.2775	-0.8011	
12	18.32	-0.00	2.4240	-1.8386	-0.0174	0.0769	0.0110	0.4789	0.2167	0.2622	-0.7573	
13	19.39	-0.00	2.7021	-1.8323	-0.0135	0.0776	0.0081	0.4403	0.2238	0.2565	-0.6763	
14	20.41	-0.01	2.8918	-1.6372	-0.0107	0.0850	0.0059	0.4764	0.2372	0.2442	-0.6353	
15	21.45	-0.01	3.2092	-1.7926	-0.0045	0.0883	0.0042	0.4724	0.2368	0.2356	-0.5586	
16	22.52	-0.01	3.4814	-1.7135	-0.0024	0.0924	0.0041	0.4687	0.2435	0.2251	-0.4923	
17	23.57	-0.01	3.7649	-1.6542	0.0119	0.0461	0.0038	0.4679	0.2481	0.2199	-0.4391	
18	24.62	-0.01	4.0636	-1.5634	0.0344	0.0142	0.0047	0.4658	0.2492	0.2167	-0.3847	
19	25.70	-0.01	4.3727	-1.4745	0.0552	-0.0148	0.0084	0.4617	0.2547	0.2071	-0.3383	
20	26.77	-0.01	4.7117	-1.4204	0.0830	-0.0754	0.0133	0.4598	0.2692	0.1906	-0.3015	
21	27.84	-0.01	5.0216	-1.4076	0.1087	-0.1180	0.0143	0.4596	0.2722	0.1874	-0.2803	
22	28.91	-0.01	5.3370	-1.3411	0.1190	-0.1073	0.0144	0.4578	0.2756	0.1822	-0.2607	
23	29.96	-0.00	5.6023	-1.4034	0.0983	-0.1761	0.0163	0.4580	0.2762	0.1810	-0.2505	
24	31.03	-0.00	6.0227	-1.5125	0.1797	-0.3163	0.0181	0.4589	0.2802	0.1787	-0.2511	
25	20.43	-0.00	2.9441	-1.7414	-0.0661	0.0793	0.0109	0.4799	0.2737	0.2063	-0.5915	
26	10.12	0.00	1.1201	-1.1432	0.0094	-0.0167	0.0192	0.4943	0.2313	0.2630	-1.0652	
27	0.00	0.00	-0.0213	0.0433	-0.0062	-0.0026	0.0172	0.4754	0.1856	0.2897	-4.3857	
28	0.01	0.00	-0.0202	0.1048	-0.0032	-0.0209	0.0174	0.4490	0.1716	0.2774	-5.2001	



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEUC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 6A 1.3U 2.3 0.0 0.00F22 0.0 0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	0.01	0.00	-0.0101	0.1016	0.0006	-0.0278	0.0187	0.4431	0.1533	0.2798	-5.6071
2	0.01	0.00	-0.0202	0.1016	0.0026	-0.0130	0.0190	0.4476	0.1716	0.2760	-5.0268
3	2.04	0.00	0.1727	-0.0868	0.0026	-0.0100	0.0186	0.4450	0.1715	0.2735	-0.5039
4	4.05	-0.00	0.3716	-0.2753	0.0076	-0.0019	0.0211	0.4418	0.1688	0.2731	-0.7948
5	6.10	-0.00	0.5897	-0.5245	0.0070	-0.0007	0.0219	0.4498	0.1684	0.2814	-0.8901
6	8.10	-0.00	0.7982	-0.7280	0.0149	0.0024	0.0228	0.4569	0.1715	0.2854	-0.9120
7	10.14	-0.00	1.0748	-0.9534	0.0065	0.0057	0.0206	0.4606	0.1755	0.2851	-0.8829
8	12.16	-0.00	1.3601	-1.1378	0.0179	0.0002	0.0197	0.4620	0.1607	0.2813	-0.8365
9	14.24	-0.00	1.6512	-1.2499	0.0114	0.0051	0.0172	0.4623	0.1849	0.2775	-0.7570
10	16.28	-0.00	2.0250	-1.3555	0.0209	0.0045	0.0129	0.4658	0.1905	0.2752	-0.6694
11	17.31	-0.00	2.2315	-1.3424	0.0211	0.0168	0.0135	0.4631	0.1982	0.2649	-0.6242
12	18.36	-0.01	2.4604	-1.4342	0.0153	0.0500	0.0113	0.4642	0.2044	0.2598	-0.5782
13	19.42	-0.01	2.7421	-1.4452	0.0301	0.0326	0.0113	0.4617	0.2088	0.2529	-0.5270
14	20.46	-0.01	2.9874	-1.4334	0.0297	0.0256	0.0100	0.4620	0.2122	0.2498	-0.4797
15	21.52	-0.01	3.2630	-1.3460	0.0379	0.0164	0.0111	0.4636	0.2188	0.2448	-0.4278
16	22.56	-0.01	3.5233	-1.3885	0.0365	-0.0071	0.0109	0.4675	0.2211	0.2464	-0.3884
17	23.63	-0.01	3.7412	-1.3623	0.0575	-0.0377	0.0137	0.4651	0.2263	0.2387	-0.3641
18	24.73	-0.01	4.0647	-1.3418	0.0764	-0.0843	0.0157	0.4708	0.2321	0.2387	-0.3301
19	25.76	-0.00	4.4002	-1.3103	0.1115	-0.1540	0.0189	0.4723	0.2362	0.2360	-0.2978
20	26.81	-0.01	4.7198	-1.3234	0.1062	-0.1231	0.0190	0.4775	0.2430	0.2345	-0.2804
21	27.84	-0.01	5.0637	-1.4293	0.1137	-0.1103	0.0205	0.4761	0.2477	0.2284	-0.2823
22	28.95	-0.01	5.4241	-1.5080	0.1344	-0.1208	0.0177	0.4804	0.2519	0.2285	-0.2788
24	31.10	-0.01	6.1121	-1.4936	0.1729	-0.2065	0.0223	0.4820	0.2738	0.2042	-0.2771
25	20.44	-0.00	2.9708	-1.4497	0.0243	-0.0032	0.0165	0.4656	0.2619	0.2037	-0.4888
26	10.12	-0.00	1.1088	-1.1044	-0.0043	0.0433	0.0226	0.4737	0.2193	0.2544	-0.9978
27	-0.00	0.00	0.0190	-0.0713	-0.0157	0.0256	0.0236	0.4531	0.1751	0.2780	-3.7471

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME RA10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 71 0.60 2.3 0.0 0.0 0.0 0.0 0.0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP
1	-0.00	0.00	0.0103	-0.0237	-0.0062	-0.0041	-0.0097	0.2345	0.1038	0.1306	-2.3048
2	2.01	0.00	0.1962	-0.2443	-0.0030	-0.0078	-0.0137	0.2372	0.1056	0.1316	-1.2705
3	4.02	0.00	0.4044	-0.5826	-0.0021	-0.0153	-0.0140	0.2346	0.1115	0.1230	-1.4487
4	6.03	0.00	0.6384	-1.0165	0.0030	-0.0277	-0.0141	0.2350	0.1119	0.1231	-1.5922
5	8.03	0.00	0.8822	-1.4121	0.0057	-0.0261	-0.0142	0.2471	0.1134	0.1337	-1.6887
6	10.06	0.00	1.1222	-1.7323	0.0058	-0.0273	-0.0129	0.2606	0.1267	0.1339	-1.5437
7	12.10	0.00	1.3496	-1.9291	-0.0020	-0.0143	-0.0116	0.2657	0.1440	0.1217	-1.4294
8	14.99	0.00	1.5540	-1.9745	-0.0048	-0.0021	-0.0125	0.2680	0.1564	0.1116	-1.2706
9	16.15	-0.00	1.7322	-1.6376	-0.0243	0.0513	-0.0117	0.2773	0.1749	0.1024	-1.0689
10	17.17	-0.00	1.8551	-1.4103	-0.0220	0.0610	-0.0123	0.2805	0.1960	0.0845	-0.9758
11	18.16	-0.00	1.9548	-1.1807	-0.0307	0.0796	-0.0127	0.2855	0.2209	0.0646	-0.9212
12	19.21	-0.00	2.1012	-1.7011	-0.0243	0.0751	-0.0172	0.2979	0.2553	0.0427	-0.8477
13	20.19	-0.00	2.2161	-1.7520	-0.0308	0.0844	-0.0179	0.3028	0.2751	0.0278	-0.7906
14	21.22	-0.00	2.3339	-1.7005	-0.0269	0.0724	-0.0206	0.3107	0.2926	0.0181	-0.7286
15	22.27	-0.00	2.4524	-1.6401	-0.0082	0.0433	-0.0197	0.3178	0.3186	-0.0008	-0.6688
16	23.30	-0.00	2.6174	-1.5674	0.0010	0.0223	-0.0154	0.3281	0.3287	-0.0005	-0.5988
17	24.32	-0.00	2.7879	-1.5676	0.0302	-0.0326	-0.0130	0.3294	0.3435	-0.0141	-0.5623
18	25.33	-0.00	2.9606	-1.5730	0.0469	-0.0473	-0.0141	0.3301	0.3570	-0.0268	-0.5313
19	26.40	-0.00	3.1491	-1.6174	0.0484	-0.0493	-0.0134	0.3303	0.3719	-0.0416	-0.5136
20	27.42	0.00	3.3317	-1.6963	0.1769	-0.3468	0.0205	0.3168	0.3737	-0.0569	-0.5091
21	28.43	0.00	3.5417	-1.7846	0.2514	-0.4945	0.0384	0.3100	0.3709	-0.0609	-0.5039
22	29.45	0.00	3.7336	-1.8465	0.3210	-0.6409	0.0472	0.3026	0.3761	-0.0735	-0.4946
23	30.46	0.01	3.9725	-2.0121	0.4593	-0.9556	0.0807	0.2949	0.3971	-0.1022	-0.5065
24	29.46	0.00	3.7577	-1.9148	0.3223	-0.6742	0.0471	0.3007	0.3974	-0.0967	-0.4996
25	30.49	0.01	3.9613	-1.9945	0.4720	-0.9777	0.0804	0.2947	0.3995	-0.1048	-0.5048
26	29.22	-0.00	2.2130	-1.7380	-0.0314	0.0786	-0.0124	0.3099	0.3227	-0.0129	-0.7854
27	20.22	-0.00	2.7156	-1.7428	-0.0280	0.0739	-0.0125	0.3070	0.3229	-0.0159	-0.7866
28	10.06	0.00	1.1133	-1.7238	0.0044	-0.0254	-0.0074	0.2609	0.1791	0.0818	-1.5484
29	-0.00	0.00	-0.0052	-0.0054	-0.0069	0.0018	-0.0042	0.2336	0.1037	0.1299	1.6393

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6												
1 72 0.65 2.3 0.0 04-0F23 0.0 0 0 0 0 UNKNOWN												
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP	
1	-0.00	0.00	-0.0026	-0.0003	-0.0073	-0.0020	-0.0041	0.2385	0.1045	0.1340	0.1159	
2	2.00	0.00	0.1826	-0.2264	-0.0030	-0.0114	-0.0097	0.2399	0.1056	0.1343	-1.2425	
3	4.03	0.00	0.4011	-0.5627	-0.0014	-0.0168	-0.0049	0.2377	0.1120	0.1257	-1.4527	
4	6.03	0.00	0.6449	-1.0517	0.0045	-0.0323	-0.0118	0.2411	0.1038	0.1373	-1.6309	
5	8.05	0.00	0.8802	-1.4248	0.0054	-0.0359	-0.0104	0.2540	0.1358	0.1182	-1.6245	
6	10.08	0.00	1.1104	-1.7369	0.0071	-0.0368	-0.0108	0.2669	0.1385	0.1283	-1.5642	
7	12.06	0.00	1.3468	-1.9474	-0.0036	-0.0131	-0.0077	0.2717	0.1446	0.1271	-1.4438	
8	14.09	0.00	1.5729	-2.0551	-0.0117	-0.0101	-0.0069	0.2710	0.1695	0.1015	-1.3066	
9	14.09	0.00	1.5778	-2.0554	-0.0110	-0.0061	-0.0069	0.2741	0.1831	0.0909	-1.3030	
10	16.13	0.00	1.7724	-1.9845	-0.0209	0.0788	-0.0096	0.2874	0.1920	0.0955	-1.1193	
11	17.15	-0.00	1.8960	-1.9492	-0.0270	0.0524	-0.0102	0.3001	0.2209	0.0792	-1.0281	
12	18.18	-0.00	2.0064	-1.9201	-0.0290	0.0595	-0.0125	0.2988	0.2393	0.0596	-0.9568	
13	19.23	-0.00	2.1263	-1.9034	-0.0280	0.0704	-0.0131	0.3033	0.2621	0.0412	-0.8951	
14	20.24	-0.00	2.2279	-1.8372	-0.0223	0.0623	-0.0156	0.3206	0.2830	0.0377	-0.8246	
15	21.26	-0.00	2.4044	-1.7621	-0.0121	0.0427	-0.0169	0.3304	0.2971	0.0333	-0.7328	
16	22.30	-0.00	2.5295	-1.6515	-0.0026	0.0246	-0.0145	0.3418	0.3263	0.0155	-0.6529	
17	23.31	-0.00	2.6637	-1.5778	0.0134	0.0759	-0.0117	0.3483	0.3432	0.0051	-0.5923	
18	24.33	-0.00	2.8458	-1.5884	0.0260	-0.0063	-0.0077	0.3490	0.3524	-0.0034	-0.5583	
19	25.38	-0.00	3.0265	-1.5952	0.0433	-0.0515	-0.0037	0.3461	0.3702	-0.0240	-0.5271	
20	26.36	-0.00	3.2038	-1.6254	0.0664	-0.0948	0.0004	0.3421	0.3791	-0.0369	-0.5074	
21	27.42	-0.00	3.3955	-1.7101	0.1405	-0.3560	0.0309	0.3245	0.3836	-0.0591	-0.5034	
22	28.43	0.00	3.6134	-1.7924	0.2646	-0.5050	0.0464	0.3160	0.3798	-0.0638	-0.4961	
23	29.48	-0.00	3.8634	-1.9093	0.2217	-0.4820	0.0375	0.3040	0.3925	-0.0885	-0.4942	
24	30.53	-0.00	4.1206	-2.0200	0.2996	-0.5412	0.0531	0.2911	0.3916	-0.1006	-0.4902	
25	20.22	-0.00	2.2535	-1.4249	-0.0183	0.0383	-0.0125	0.3263	0.3554	-0.0291	-0.8098	
26	10.05	0.00	1.1175	-1.7562	0.0072	-0.0349	-0.0073	0.2679	0.2130	0.0549	-1.5714	
27	-0.00	0.00	-0.0044	-0.0095	-0.0047	-0.0007	-0.0041	0.2399	0.1295	0.1104	1.9184	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART	MACH	RX10-6	PM1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	73	0.42	2.3	0.0	M=0F23	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-0.00	0.00	-0.0045	0.0141	-0.0071	-0.0077	-0.0007	0.2515	0.1057	0.1458	-1.4780
2	-0.00	0.00	-0.0072	0.0107	-0.0043	-0.0044	-0.0023	0.2516	0.1094	0.1422	-1.4858
3	2.00	0.00	0.1802	-0.2124	-0.0040	-0.0152	-0.0078	0.2524	0.1152	0.1377	-1.1815
4	4.01	0.00	0.3936	-0.5679	-0.0006	-0.0758	-0.0080	0.2498	0.1200	0.1298	-1.4428
5	6.01	0.00	0.6624	-1.1104	0.0042	-0.0642	-0.0134	0.2516	0.1226	0.1290	-1.6752
6	8.03	0.00	0.9268	-1.6171	-0.0001	-0.0167	0.0019	0.2673	0.1268	0.1405	-1.7447
7	10.07	0.00	1.1654	-1.9235	0.0057	-0.0420	-0.0087	0.2814	0.1406	0.1408	-1.6491
8	12.09	0.00	1.4022	-2.1402	-0.0022	-0.0248	-0.0024	0.2933	0.1567	0.1366	-1.5263
9	14.09	0.00	1.6343	-2.2842	-0.0134	-0.0059	0.0002	0.3034	0.1669	0.1365	-1.3934
10	16.15	0.00	1.9041	-2.3580	-0.0155	0.0005	-0.0093	0.3072	0.2144	0.0928	-1.2384
11	17.17	0.00	2.0022	-2.3154	-0.0155	0.0144	-0.0081	0.3196	0.2370	0.0826	-1.1567
12	18.19	0.00	2.1342	-2.3026	-0.0210	0.0306	-0.0121	0.3276	0.2596	0.0681	-1.0764
13	19.22	-0.00	2.2056	-2.2361	-0.0213	0.0347	-0.0125	0.3308	0.2832	0.0476	-1.0138
14	20.22	-0.00	2.3706	-2.1088	-0.0114	0.0247	-0.0172	0.3497	0.3105	0.0393	-0.8894
15	21.26	-0.00	2.4912	-1.9134	-0.0174	0.0463	-0.0165	0.3627	0.3200	0.0427	-0.7682
16	22.32	-0.00	2.6395	-1.7861	-0.0033	0.0511	-0.0092	0.3835	0.3418	0.0417	-0.6767
17	23.31	-0.00	2.7458	-1.7458	-0.0006	0.0579	-0.0066	0.3843	0.3522	0.0321	-0.6267
18	24.38	-0.00	2.9476	-1.7426	0.0173	0.0211	-0.0079	0.3806	0.3697	0.0109	-0.5834
19	25.41	-0.00	3.1824	-1.7543	0.0490	-0.0458	-0.0060	0.3772	0.3775	-0.0003	-0.5512
20	26.42	-0.00	3.4013	-1.7237	0.1287	-0.1945	0.0134	0.3674	0.3822	-0.0148	-0.5068
21	27.49	-0.00	3.6348	-1.6460	0.1461	-0.2245	0.0202	0.3597	0.3930	-0.0332	-0.4524
22	28.58	-0.01	3.9187	-1.4241	0.1803	-0.2377	0.0215	0.3545	0.3886	-0.0341	-0.3634
23	29.66	-0.01	4.2818	-1.0476	0.1344	-0.1248	0.0130	0.3538	0.3974	-0.0436	-0.2563
24	30.68	-0.01	4.5647	-0.8827	0.1063	-0.0567	0.0066	0.3444	0.4123	-0.0675	-0.1932
25	20.24	-0.00	2.3754	-2.1265	-0.0043	0.0249	-0.0088	0.3555	0.3411	-0.0256	-0.8952
26	10.04	0.00	1.1675	-1.9491	-0.0034	-0.0328	-0.0036	0.2864	0.2617	0.0247	-1.6694
27	-0.00	0.00	-0.0095	0.0014	-0.0043	0.0014	0.0011	0.2483	0.1459	0.1024	-0.2018

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME RX10-6											
1 74 0.48 2.3 0.0 0.00023 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
2	-0.00	-0.00	0.0066	-0.0479	-0.0151	0.0349	-0.0099	0.3186	0.1337	0.1850	-7.3185
3	2.03	0.00	0.2314	-0.4294	-0.0117	0.0144	-0.0118	0.3160	0.1373	0.1787	-1.8538
4	4.01	0.00	0.4766	-0.8494	-0.0046	-0.0011	-0.0137	0.3185	0.1515	0.1679	-1.8872
5	6.04	0.00	0.7009	-1.3420	-0.0010	-0.0235	-0.0124	0.3288	0.1517	0.1771	-1.9147
6	8.12	0.00	0.9445	-1.8826	0.0001	-0.0405	-0.0078	0.3473	0.1630	0.1843	-1.8930
8	12.07	0.00	1.5449	-2.6644	-0.0106	-0.0132	0.0091	0.3583	0.2066	0.1516	-1.7246
9	14.10	0.00	1.7890	-2.7677	-0.0236	0.0312	0.0087	0.3695	0.2187	0.1508	-1.5479
10	16.14	0.00	2.0397	-2.8144	-0.0133	0.0233	-0.0050	0.3716	0.2566	0.1150	-1.3825
11	17.14	-0.00	2.1846	-2.8471	-0.0106	0.0235	-0.0089	0.3801	0.2682	0.1120	-1.3032
12	18.16	-0.00	2.3247	-2.8554	-0.0091	0.0311	-0.0095	0.3840	0.2809	0.1031	-1.2263
13	19.22	-0.00	2.5111	-2.8430	-0.0130	0.0359	-0.0153	0.3864	0.3074	0.0790	-1.1322
14	20.22	-0.00	2.6800	-2.8011	-0.0209	0.0419	-0.0224	0.3831	0.3093	0.0738	-1.0452
15	21.29	-0.00	2.8515	-2.7220	-0.0139	0.0475	-0.0252	0.3755	0.3236	0.0520	-0.9544
16	22.34	-0.00	3.0252	-2.5615	0.0108	0.0177	-0.0170	0.3707	0.3370	0.0337	-0.8467
17	23.37	-0.00	3.2751	-2.4591	0.0308	-0.0148	-0.0156	0.3696	0.3359	0.0337	-0.7508
18	24.41	-0.01	3.5057	-2.3022	0.0347	-0.0144	-0.0138	0.3623	0.3418	0.0205	-0.6547
19	25.46	-0.01	3.6757	-2.1295	0.0579	-0.0232	-0.0040	0.3553	0.3519	0.0034	-0.5793
20	26.57	-0.01	4.0001	-1.8039	0.1018	-0.0468	0.0064	0.3595	0.3588	0.0007	-0.4518
21	27.61	-0.01	4.3258	-1.5871	0.0997	-0.0023	0.0046	0.3554	0.3596	-0.0041	-0.3669
22	28.74	-0.01	4.6617	-1.3551	0.0827	-0.0048	-0.0043	0.3385	0.3576	-0.0191	-0.2907
23	29.74	-0.01	5.0845	-1.2814	0.0987	-0.0022	-0.0056	0.3286	0.3583	-0.0296	-0.2519
24	30.82	-0.01	5.3039	-1.0102	0.0646	0.0269	-0.0115	0.3361	0.3645	-0.0284	-0.1985
25	20.24	-0.00	2.6910	-2.7456	-0.0173	0.0550	-0.0193	0.3918	0.3474	0.0444	-1.0352
26	20.23	-0.00	2.6625	-2.7723	-0.0158	0.0431	-0.0210	0.3828	0.3454	0.0374	-1.0413
27	10.03	0.00	1.2654	-2.3235	-0.0024	-0.0320	-0.0050	0.3616	0.2572	0.1044	-1.8347
28	-0.50	-0.00	0.0089	-0.0591	-0.0151	0.0367	-0.0115	0.3217	0.1630	0.1587	-6.6685

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)  
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PROPULSION WIND TUNNEL FACILITY (PMT)  
MARTIN MISSILE TAIL EFFECTS DATA

AERODYNAMIC WIND TUNNEL (47)

TEST PART MACH RX10-6											
1 75 1.10 2.3											
PM1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 B4W0F23 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAP	KCP
1	0.00	-0.00	-0.0095	0.0288	-0.0176	0.0472	-0.0083	0.5010	0.1987	0.3023	-3.0213
2	2.03	-0.00	0.2301	-0.3454	-0.0149	0.0450	-0.0096	0.5016	0.2061	0.2956	-1.6767
3	4.04	-0.00	0.4764	-0.8103	-0.0113	0.0348	-0.0116	0.4995	0.2005	0.2990	-1.7207
4	6.03	-0.00	0.7246	-1.2571	-0.0105	0.0285	-0.0103	0.5117	0.2069	0.3048	-1.7350
5	8.07	-0.00	0.9864	-1.6721	-0.0087	0.0175	-0.0091	0.5162	0.2188	0.2974	-1.6952
6	10.13	-0.00	1.2348	-2.0577	-0.0133	0.0312	-0.0046	0.5150	0.2451	0.2699	-1.4103
7	12.13	-0.00	1.4425	-2.5811	-0.0111	0.0335	-0.0046	0.5160	0.2506	0.2654	-1.4009
8	14.16	-0.00	2.1447	-2.7331	-0.0141	0.0503	-0.0101	0.5103	0.2527	0.2576	-1.2744
9	16.20	-0.00	2.3129	-2.7822	-0.0186	0.0698	-0.0092	0.5082	0.2562	0.2520	-1.2032
10	18.22	-0.01	2.4787	-2.7800	-0.0239	0.1047	0.0008	0.5018	0.2600	0.2418	-1.1216
11	19.25	-0.01	2.6387	-2.6911	-0.0285	0.1259	-0.0121	0.5007	0.2668	0.2339	-1.0199
12	20.31	-0.01	2.8670	-2.6485	-0.0249	0.1374	-0.0162	0.4962	0.2741	0.2220	-0.9174
13	21.34	-0.01	3.1145	-2.6192	-0.0062	0.0949	-0.0177	0.4901	0.2798	0.2103	-0.8399
14	22.40	-0.01	3.3618	-2.5723	-0.0134	0.1008	-0.0147	0.4796	0.2807	0.1989	-0.7651
15	23.46	-0.01	3.3790	-2.4840	0.0076	0.0800	-0.0240	0.4790	0.2781	0.2009	-0.7351
16	24.55	-0.01	3.6353	-2.4322	-0.0085	0.0969	-0.0149	0.4701	0.2452	0.1849	-0.6690
17	25.58	-0.01	3.9220	-2.3210	0.0106	0.0570	-0.0199	0.4611	0.2927	0.1784	-0.5910
18	26.65	-0.01	4.2323	-2.1861	0.0189	0.0617	-0.0187	0.4505	0.2821	0.1684	-0.5168
19	27.75	-0.01	4.5626	-2.1211	0.0643	-0.0108	-0.0074	0.4423	0.2853	0.1569	-0.4469
20	28.79	-0.01	4.8679	-2.1065	0.0677	0.0145	-0.0147	0.4372	0.2868	0.1504	-0.4310
21	29.86	-0.01	5.2641	-2.0606	0.0589	0.0224	-0.0197	0.4323	0.2478	0.1445	-0.3916
22	30.91	-0.01	5.5660	-1.9958	0.0433	-0.0449	-0.0164	0.4289	0.2911	0.1378	-0.3506
23	20.32	-0.01	5.7255	-1.8342	0.0868	-0.0663	-0.0204	0.4297	0.2949	0.1349	-0.3212
24	17.08	0.00	2.4706	-2.5995	-0.0404	0.1655	-0.0191	0.5009	0.2494	0.2115	-0.9056
25	10.07	-0.00	1.5319	-2.3125	-0.0123	0.0238	-0.0025	0.5205	0.2708	0.2498	-1.5095
26	-0.00	-0.00	1.2506	-2.0443	-0.0079	0.0190	-0.0049	0.5198	0.2605	0.2592	-1.6347
27	-0.00	-0.00	-0.0116	0.0244	-0.0195	0.0568	-0.0051	0.4963	0.2295	0.2668	-2.1036

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 74 1.20 2.3											
PH1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 040F23 0.0 0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAR	CAR	XCP
1	0.01	0.00	-0.0255	0.1140	-0.0072	0.0023	-0.0042	0.4982	0.1962	0.3019	-4.4632
2	0.00	0.00	-0.0236	0.1164	-0.0072	0.0023	-0.0057	0.4977	0.1855	0.3122	-3.9300
3	2.04	0.00	0.2105	-0.2820	-0.0024	-0.0089	-0.0058	0.4944	0.1817	0.3127	-1.3390
4	4.05	0.00	0.4475	-0.4697	-0.0023	-0.0162	-0.0075	0.4895	0.1824	0.3072	-1.4065
7	10.09	0.00	1.2073	-1.6916	0.0127	-0.0331	-0.0072	0.5134	0.1960	0.3174	-1.4011
8	12.14	0.00	1.4901	-1.9196	0.0127	-0.0373	-0.0066	0.5121	0.1990	0.3131	-1.2882
9	14.15	0.00	1.8007	-2.0950	0.0114	-0.0412	-0.0070	0.5153	0.2070	0.3083	-1.1635
10	16.20	0.00	2.1311	-2.2264	0.0054	-0.0209	-0.0089	0.5110	0.2134	0.2976	-1.0447
11	17.23	-0.00	2.3149	-2.2346	0.0053	-0.0076	-0.0097	0.5101	0.2150	0.2951	-0.9653
12	18.28	-0.00	2.5164	-2.1616	-0.0094	0.0328	-0.0148	0.5044	0.2194	0.2846	-0.8678
13	19.33	-0.00	2.7574	-2.1224	-0.0168	0.0634	-0.0145	0.5022	0.2251	0.2771	-0.7693
14	20.43	-0.01	3.0141	-2.0424	-0.0094	0.0626	-0.0160	0.4978	0.2290	0.2687	-0.6765
15	21.48	-0.01	3.2635	-1.9437	-0.0027	0.0633	-0.0176	0.4952	0.2305	0.2647	-0.5902
16	22.51	-0.01	3.5450	-1.8324	0.0019	0.0762	-0.0176	0.4880	0.2329	0.2531	-0.5163
17	23.58	-0.01	3.8174	-1.7245	0.0153	0.0593	-0.0178	0.4765	0.2377	0.2388	-0.4517
18	24.67	-0.01	4.1144	-1.5982	0.0370	0.0234	-0.0155	0.4698	0.2400	0.2298	-0.3884
19	25.70	-0.01	4.4201	-1.5067	0.0508	0.0089	-0.0130	0.4643	0.2430	0.2213	-0.3409
21	27.85	-0.01	5.0678	-1.4325	0.1067	-0.0769	-0.0068	0.4569	0.2569	0.1999	-0.2827
22	29.90	-0.01	5.3674	-1.3473	0.1193	-0.1072	-0.0087	0.4523	0.2609	0.1914	-0.2603
23	29.95	-0.01	5.6590	-1.4214	0.1843	-0.3185	-0.0034	0.4524	0.2561	0.1868	-0.2513
24	31.02	-0.00	6.0264	-1.4994	0.1909	-0.3454	0.0004	0.4499	0.2715	0.1784	-0.2488
25	20.34	-0.00	3.0166	-1.9444	-0.0074	0.0549	-0.0133	0.5010	0.2605	0.2405	-0.6626
26	26.77	-0.01	4.7501	-1.4425	0.0766	-0.0536	-0.0067	0.4595	0.2445	0.2150	-0.3038
27	10.08	0.00	1.2116	-1.6915	0.0067	-0.0446	-0.0031	0.5153	0.2320	0.2833	-1.3961
28	8.07	0.00	0.9409	-1.3444	0.0080	-0.0244	-0.0023	0.5117	0.2105	0.3012	-1.4625
29	6.73	0.00	0.6927	-1.0559	0.0103	-0.0304	-0.0020	0.4989	0.2018	0.2971	-1.5244
30	0.00	0.00	-0.0356	0.1117	-0.0053	0.0011	-0.0042	0.4974	0.1970	0.3004	-3.1355

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	PART	MACH	REX10-6	PH1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
1	77	1.30	2.3	0.0	84WDF23	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	0.00	0.00	-0.0322	0.1247	0.0025	-0.0180	-0.0029	0.4760	0.1843	0.2917	-3.8554
2	2.02	0.00	0.1855	-0.1630	-0.0069	-0.0102	-0.0031	0.4743	0.1843	0.2900	-0.8790
3	4.04	-0.00	0.4077	-0.4604	0.0024	0.0005	-0.0018	0.4736	0.1839	0.2898	-1.1302
4	6.08	0.00	0.8327	-0.7557	-0.0010	-0.0051	-0.0022	0.4766	0.1821	0.2944	-1.1953
5	8.08	0.00	0.8864	-1.0507	0.0035	-0.0168	-0.0029	0.4951	0.1854	0.3092	-1.1854
6	10.13	-0.00	1.1545	-1.3241	0.0073	-0.0155	-0.0048	0.4981	0.1900	0.3081	-1.1420
8	12.15	0.00	1.4561	-1.5210	0.0094	-0.0221	-0.0045	0.5047	0.2047	0.3000	-1.0431
9	14.22	-0.00	1.7732	-1.6477	0.0135	-0.0275	-0.0044	0.5060	0.2068	0.2991	-0.9293
10	16.27	-0.00	2.1296	-1.7216	0.0048	0.0016	-0.0030	0.5056	0.2135	0.2921	-0.8084
11	17.31	-0.00	2.3609	-1.7352	-0.0043	0.0301	-0.0039	0.5032	0.2178	0.2855	-0.7358
12	18.35	-0.00	2.6125	-1.7293	0.0020	0.0300	-0.0005	0.5006	0.2207	0.2799	-0.6619
13	19.41	-0.00	2.8623	-1.6912	0.0130	0.0150	-0.0079	0.4987	0.2243	0.2744	-0.5909
14	20.46	-0.01	3.1044	-1.6324	0.0222	0.0144	-0.0065	0.4936	0.2275	0.2661	-0.5259
15	21.56	-0.01	3.3724	-1.5368	0.0209	0.0196	-0.0067	0.4893	0.2298	0.2595	-0.4557
16	22.58	-0.01	3.6661	-1.4495	0.0276	0.0154	-0.0055	0.4869	0.2322	0.2546	-0.3954
17	23.65	-0.01	3.9449	-1.3943	0.0265	0.0268	-0.0070	0.4831	0.2364	0.2466	-0.3533
18	24.73	-0.01	4.2530	-1.3402	0.0343	0.0093	-0.0088	0.4836	0.2409	0.2426	-0.3151
19	25.80	-0.01	4.5677	-1.2946	0.0470	-0.0004	-0.0035	0.4823	0.2446	0.2377	-0.2834
20	26.87	-0.01	4.9264	-1.3405	0.0640	-0.0232	-0.0011	0.4805	0.2508	0.2297	-0.2721
21	26.87	-0.01	4.9351	-1.3425	0.0611	-0.0256	0.0002	0.4776	0.2550	0.2226	-0.2720
22	27.92	-0.01	5.2497	-1.4023	0.0742	-0.0330	-0.0026	0.4782	0.2583	0.2198	-0.2661
23	28.97	-0.01	5.6073	-1.4640	0.0747	-0.0289	-0.0093	0.4807	0.2602	0.2205	-0.2611
24	30.05	-0.01	5.9625	-1.5413	0.0771	-0.0541	-0.0101	0.4844	0.2644	0.2200	-0.2585
25	31.07	-0.01	6.2794	-1.6462	0.0832	-0.0449	-0.0127	0.4837	0.2700	0.2137	-0.2621
26	20.48	-0.00	3.1358	-1.5654	0.0261	-0.0164	-0.0017	0.4944	0.2540	0.2404	-0.4994
27	10.12	0.00	1.1537	-1.2976	0.0034	-0.0211	-0.0009	0.5038	0.2351	0.2687	-1.1247
28	0.01	0.00	-0.0357	0.1314	-0.0023	-0.0157	0.0026	0.4772	0.2079	0.2693	-3.6828



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEUC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 82 0.80 2.3 0.0 84W0F21 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	KCP
2	2.03	-0.00	0.1911	-0.2154	-0.0030	0.0054	-0.0136	0.2447	0.1021	0.1425	-1.1278
3	4.05	-0.00	0.3932	-0.5133	-0.0046	0.0170	-0.0156	0.2443	0.1054	0.1389	-1.3054
4	6.01	-0.00	0.5902	-0.8001	-0.0013	-0.0002	-0.0197	0.2504	0.1090	0.1414	-1.3555
5	8.05	-0.00	0.7974	-1.0370	0.0047	-0.0098	-0.0184	0.2701	0.1252	0.1448	-1.2998
6	10.04	-0.00	0.9729	-1.1437	-0.0133	0.0416	-0.0021	0.2874	0.1412	0.1462	-1.1756
7	12.11	-0.00	1.1802	-1.2079	-0.0134	0.0495	-0.0068	0.3037	0.1467	0.1570	-1.0235
8	14.11	-0.00	1.3859	-1.2626	-0.0229	0.0443	-0.0079	0.3126	0.1741	0.1385	-0.9091
9	16.15	-0.00	1.6174	-1.3211	-0.0255	0.0643	-0.0106	0.3176	0.2077	0.1099	-0.8167
10	17.17	-0.00	1.7273	-1.3358	-0.0243	0.0685	-0.0111	0.3179	0.2247	0.0932	-0.7733
11	18.21	-0.00	1.8585	-1.3593	-0.0142	0.0622	-0.0135	0.3192	0.2375	0.0817	-0.7314
12	19.23	-0.00	1.9990	-1.3484	-0.0052	0.0537	-0.0143	0.3251	0.2547	0.0705	-0.6745
13	20.24	-0.00	2.1197	-1.3094	-0.0027	0.0522	-0.0096	0.3313	0.2921	0.0392	-0.6179
14	21.26	-0.01	2.2275	-1.2233	0.0135	0.0485	-0.0031	0.3403	0.3007	0.0396	-0.5492
15	22.27	-0.01	2.3562	-1.1025	-0.0177	0.1539	0.0058	0.3535	0.3132	0.0403	-0.4679
16	23.34	-0.01	2.4964	-1.0322	-0.0096	0.1428	0.0066	0.3634	0.3205	0.0432	-0.4134
17	24.34	-0.01	2.6554	-1.0214	0.0142	0.0801	0.0053	0.3680	0.3381	0.0299	-0.3847
18	25.35	-0.01	2.6224	-1.0415	0.0370	0.0256	0.0059	0.3666	0.3508	0.0159	-0.3698
19	26.38	-0.01	3.0076	-1.0633	0.0425	0.0051	0.0012	0.3661	0.3614	0.0047	-0.3536
20	27.42	-0.00	3.1959	-1.1296	0.0724	-0.0929	-0.0004	0.3581	0.3708	-0.0127	-0.3534
21	28.45	0.00	3.3803	-1.1931	0.1453	-0.3742	0.0127	0.3512	0.3675	-0.0162	-0.3538
22	28.44	0.00	3.3677	-1.1472	0.1927	-0.3885	0.0129	0.3477	0.3941	-0.0504	-0.3525
23	29.48	-0.01	3.5466	-1.3171	-0.0140	0.0922	-0.0278	0.3399	0.3994	-0.0595	-0.3674
24	30.48	0.00	3.7655	-1.3672	0.1131	-0.2525	-0.0042	0.3294	0.3956	-0.0463	-0.3631
25	20.24	-0.00	2.1037	-1.2913	-0.0028	0.0458	-0.0006	0.3283	0.3333	-0.0050	-0.6138
26	10.05	-0.00	0.9730	-1.1420	-0.0132	0.0504	0.0086	0.2849	0.1979	0.0870	-1.1737
27	-0.00	0.00	0.0076	-0.0288	-0.0087	0.0081	-0.0005	0.2383	0.1061	0.1321	-3.7758

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6												
1 83 0.85 2.3												
PM1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
0.0 H4=0F21 0.0 0 0 0 0 UNKNOWN												
POINT	ALPHA	BETA	CM	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP	
1	-0.00	0.00	0.0024	-0.0376	-0.0084	0.0056	-0.0027	0.2408	0.0990	0.1410	-1.06327	
2	2.02	0.00	0.1766	-0.7094	-0.0066	0.0042	-0.0061	0.2347	0.1239	0.1158	-1.1853	
3	4.01	0.00	0.3821	-0.5167	-0.0056	0.0046	-0.0080	0.2402	0.1025	0.1377	-1.3523	
4	6.03	0.00	0.5856	-0.7456	-0.0017	-0.0170	-0.0087	0.2531	0.1041	0.1490	-1.3580	
5	8.06	0.00	0.7865	-1.0213	0.0022	-0.0165	-0.0074	0.2756	0.1799	0.1457	-1.2985	
6	10.07	-0.00	1.0045	-1.1789	-0.0147	0.0146	0.0064	0.2896	0.1495	0.1401	-1.1737	
7	12.10	-0.00	1.1922	-1.2804	-0.0163	0.0419	0.0021	0.3058	0.1588	0.1470	-1.0744	
8	14.11	0.00	1.4075	-1.3472	-0.0214	0.0355	0.0010	0.3145	0.1782	0.1362	-0.9572	
9	16.16	0.00	1.6449	-1.4101	-0.0203	0.0370	-0.0053	0.3254	0.2133	0.1121	-0.8572	
10	17.18	-0.00	1.7687	-1.4404	-0.0157	0.0347	-0.0040	0.3281	0.2298	0.0983	-0.8146	
11	18.20	-0.00	1.9130	-1.4588	-0.0100	0.0365	-0.0082	0.3344	0.2514	0.0830	-0.7626	
12	19.22	-0.00	2.0262	-1.4414	-0.0028	0.0363	-0.0036	0.3360	0.2704	0.0657	-0.7114	
13	20.23	-0.00	2.1478	-1.3525	0.0089	-0.0136	-0.0085	0.3493	0.2869	0.0624	-0.6297	
14	21.27	-0.01	2.2704	-1.2247	0.0120	0.0725	0.0020	0.3642	0.2940	0.0702	-0.5415	
15	22.30	-0.01	2.4064	-1.1171	-0.0314	0.1456	0.0123	0.3778	0.3251	0.0527	-0.4642	
16	23.36	-0.01	2.5547	-1.0735	-0.0080	0.1224	0.0108	0.3820	0.3366	0.0453	-0.4282	
17	24.37	-0.01	2.7251	-1.0917	0.0104	0.0711	0.0113	0.3844	0.3457	0.0367	-0.3969	
18	25.38	-0.01	2.8976	-1.0415	0.0253	0.0354	0.0119	0.3807	0.3729	0.0078	-0.3767	
19	26.44	-0.00	3.0882	-1.1243	0.0546	-0.0388	0.0123	0.3759	0.3756	0.0002	-0.3641	
20	27.43	-0.00	3.2749	-1.1632	0.0374	-0.0122	0.0081	0.3679	0.3836	-0.0157	-0.3548	
21	28.47	0.00	3.4344	-1.2130	0.1461	-0.2403	0.0174	0.3600	0.3762	-0.0163	-0.3531	
22	29.50	-0.00	3.6900	-1.3085	-0.0243	0.0871	-0.0228	0.3501	0.3984	-0.0484	-0.3544	
23	30.52	-0.00	3.9274	-1.3940	-0.0440	0.0916	-0.0309	0.3339	0.4079	-0.0748	-0.3562	
24	20.24	-0.00	2.1392	-1.3452	0.0101	-0.0111	0.0003	0.3482	0.3526	-0.0044	-0.6288	
25	10.07	-0.00	0.9850	-1.1814	-0.0136	0.0417	0.0134	0.2913	0.2252	0.0661	-1.1994	
26	-0.30	0.00	-0.0047	-0.0396	-0.0072	0.0018	0.0065	0.2387	0.1075	0.1312	8.4443	

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	MACH	W10-6	PM1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	84	0.92	2.3	0.0	84-0F21	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP	
1	-0.00	0.00	-0.0044	-0.0246	-0.0054	-0.0077	0.0060	0.2466	0.0075	0.1591	6.6456	
2	2.01	0.00	0.1641	-0.1693	-0.0018	-0.0142	0.0027	0.2485	0.0984	0.1501	-1.1195	
3	4.02	0.00	0.3839	-0.5257	-0.0030	-0.0161	0.0003	0.2486	0.1159	0.1329	-1.3691	
4	6.06	0.00	0.5813	-0.7856	-0.0064	0.0116	0.0036	0.2679	0.1240	0.1439	-1.3515	
5	8.06	-0.00	0.4024	-1.0862	-0.0151	0.0586	0.0118	0.2948	0.1586	0.1362	-1.3520	
6	10.09	0.00	1.0012	-1.2244	0.0003	-0.0032	0.0007	0.3166	0.1620	0.1545	-1.2229	
7	12.10	0.00	1.2263	-1.3930	-0.0167	0.0375	0.0118	0.3249	0.1803	0.1446	-1.1360	
8	14.12	0.00	1.4654	-1.5426	-0.0266	0.0387	0.0075	0.3412	0.1955	0.1457	-1.0528	
9	16.14	0.00	1.7178	-1.6433	-0.0204	0.0294	-0.0002	0.3526	0.2368	0.1158	-0.9564	
10	17.19	0.00	1.8534	-1.6814	-0.0146	0.0243	-0.0041	0.3569	0.2690	0.0879	-0.9075	
11	18.19	-0.00	1.9706	-1.7054	-0.0168	0.0369	-0.0029	0.3605	0.2894	0.0712	-0.8656	
12	19.24	-0.00	2.1109	-1.6751	-0.0052	0.0266	-0.0004	0.3645	0.3103	0.0542	-0.7935	
13	20.28	-0.00	2.2453	-1.5707	0.0152	-0.0336	-0.0102	0.3723	0.3212	0.0511	-0.6995	
14	21.27	0.00	2.3816	-1.4694	0.0389	-0.1037	-0.0134	0.3910	0.3172	0.0737	-0.6170	
15	21.28	-0.00	2.3987	-1.4396	0.0362	-0.0310	0.0037	0.4003	0.3470	0.0533	-0.6002	
16	22.33	-0.01	2.5053	-1.2741	-0.0064	0.1067	0.0151	0.4128	0.3431	0.0697	-0.5086	
17	23.35	-0.01	2.6755	-1.2653	-0.0150	0.1141	0.0159	0.4137	0.3533	0.0604	-0.4729	
18	24.38	-0.01	2.8622	-1.2544	-0.0085	0.1256	0.0102	0.4155	0.3634	0.0522	-0.4402	
19	25.42	-0.01	3.0243	-1.2584	-0.0138	0.1183	0.0043	0.4094	0.3709	0.0386	-0.4154	
20	26.45	-0.01	3.2495	-1.2363	0.0449	0.0013	0.0107	0.4055	0.3801	0.0254	-0.3805	
21	27.49	-0.01	3.4708	-1.1667	0.0459	-0.0039	0.0109	0.3950	0.3910	0.0040	-0.3362	
22	28.56	-0.00	3.7764	-1.0194	0.1008	-0.1766	0.0246	0.3853	0.3994	-0.0040	-0.2699	
23	29.47	-0.01	4.0429	-0.7420	-0.0284	0.1325	0.0009	0.3757	0.3923	-0.0166	-0.1835	
24	29.64	-0.01	4.0716	-0.7628	-0.0172	0.1068	-0.0025	0.3749	0.4082	-0.0333	-0.1874	
25	30.72	-0.00	4.3963	-0.5863	-0.3968	0.7593	-0.0683	0.3615	0.4082	-0.0466	-0.1334	
26	20.25	0.00	2.2347	-1.5681	0.0117	-0.0400	-0.0037	0.3781	0.3742	0.0039	-0.7017	
27	20.25	0.00	2.2523	-1.5858	0.0164	-0.0410	-0.0037	0.3790	0.3609	0.0181	-0.7041	
28	10.08	0.00	0.9944	-1.2110	-0.0031	-0.0040	0.0071	0.3184	0.2669	0.0514	-1.2117	
29	-0.00	0.00	-0.0067	-0.0244	-0.0092	-0.0065	0.0124	0.2484	0.1432	0.1052	4.4702	

TEST PART MACH RX10-6											
1 87 0.68 2.3 0.0 H40F21 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAR	CAF	XCP
1	0.00	-0.00	-0.0006	0.0202	-0.0043	0.0159	-0.0038	0.3079	0.1078	0.2001	-34.9570
2	2.02	-0.00	0.2046	-0.2858	-0.0011	0.0078	-0.0103	0.3050	0.1309	0.1740	-1.3971
3	4.02	-0.00	0.4263	-0.6779	-0.0004	0.0133	-0.0136	0.3143	0.1218	0.1925	-1.5903
4	6.04	-0.00	0.6910	-1.1816	0.0109	-0.0132	-0.0077	0.3496	0.1478	0.2017	-1.7100
5	8.05	-0.00	0.8809	-1.3356	-0.0103	0.0734	0.0087	0.3610	0.1637	0.1973	-1.5163
6	10.07	-0.00	1.0896	-1.3607	0.0127	-0.0043	-0.0059	0.3927	0.1876	0.2050	-1.2488
7	12.13	-0.01	1.2809	-1.4421	0.8015	0.0074	0.0042	0.3930	0.2286	0.1645	-1.1258
8	14.16	-0.00	1.5463	-1.6789	-0.0053	0.0251	0.0022	0.4078	0.2704	0.1374	-1.0858
9	16.18	-0.00	1.8337	-1.8833	-0.0108	0.0490	0.0046	0.4172	0.2986	0.1186	-1.0271
10	17.19	-0.00	1.9916	-1.9679	0.0061	0.0374	0.0056	0.4272	0.3186	0.1086	-0.9881
11	18.21	-0.00	2.1368	-2.0056	0.0063	0.0414	0.0051	0.4215	0.3246	0.0969	-0.9386
12	19.23	-0.00	2.3070	-2.0464	0.0133	0.0370	0.0044	0.4226	0.3310	0.0916	-0.8878
13	20.27	-0.01	2.5087	-2.0540	0.0243	0.0271	0.0051	0.4235	0.3357	0.0879	-0.8188
14	21.30	-0.01	2.6974	-1.9831	0.0205	0.0303	0.0023	0.4216	0.3655	0.0561	-0.7352
15	22.36	-0.01	2.8646	-1.8159	0.0298	0.0111	0.0040	0.4141	0.3821	0.0320	-0.6339
16	23.40	-0.01	3.0810	-1.6334	0.0449	-0.0154	0.0084	0.4161	0.3882	0.0279	-0.5303
17	24.45	-0.01	3.2938	-1.4483	0.0679	-0.0144	0.0051	0.4127	0.3996	0.0131	-0.4397
18	25.52	-0.01	3.5348	-1.2703	0.0728	-0.0346	0.0127	0.4141	0.3925	0.0216	-0.3592
19	26.57	-0.01	3.7544	-1.0240	0.1080	-0.0779	0.0252	0.4164	0.3798	0.0347	-0.2727
20	27.66	-0.01	4.0777	-0.7022	0.1241	-0.0721	0.0266	0.4153	0.3690	0.0463	-0.1722
21	28.72	-0.01	4.4155	-0.4345	0.1299	-0.1378	0.0271	0.4100	0.3657	0.0442	-0.0984
22	29.80	-0.01	4.7200	-0.2134	0.2133	-0.2775	0.0502	0.4108	0.3746	0.0363	-0.0452
23	30.85	-0.01	4.9689	-0.0333	0.2175	-0.2587	0.0441	0.4050	0.3831	0.0218	-0.0067
24	0.00	-0.00	-0.0072	0.0288	-0.0010	0.0182	0.0226	0.3229	0.1475	0.1754	-3.9937

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 90 1.10 2.3											
PM1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 84#0F21 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	0.00	-0.00	-0.0094	0.0471	-0.0202	0.0009	-0.0094	0.4961	0.2238	0.2723	-4.7484
2	2.02	-0.00	0.2342	-0.3911	-0.0194	0.0794	-0.0108	0.4951	0.2161	0.2790	-1.6697
3	2.02	-0.00	0.2358	-0.3836	-0.0158	0.0683	-0.0097	0.4959	0.2065	0.2895	-1.6269
4	4.01	-0.00	0.4750	-0.8040	-0.0108	0.0454	-0.0156	0.4928	0.2149	0.2778	-1.6925
5	6.03	-0.00	0.7144	-1.2041	-0.0094	0.0447	-0.0130	0.5019	0.1985	0.3034	-1.6855
6	8.04	-0.00	0.9640	-1.5489	-0.0099	0.0538	-0.0119	0.5154	0.1997	0.3162	-1.6067
7	10.08	-0.00	1.2132	-1.8044	-0.0116	0.0615	-0.0078	0.5169	0.2093	0.3075	-1.4910
8	12.04	-0.00	1.4654	-1.9800	-0.0236	0.0744	-0.0041	0.5109	0.2181	0.2928	-1.3503
9	14.13	-0.00	1.6538	-1.7568	-0.0196	0.0843	-0.0071	0.5237	0.2311	0.2926	-1.0623
10	16.22	-0.01	1.9267	-1.7063	-0.0177	0.1132	-0.0068	0.5273	0.2591	0.2681	-0.8866
11	17.21	-0.01	2.1002	-1.7876	-0.0117	0.1115	-0.0089	0.5267	0.2711	0.2556	-0.8513
12	19.25	-0.01	2.2942	-1.8774	0.0034	0.0856	-0.0113	0.5262	0.2814	0.2449	-0.8167
13	19.31	-0.01	2.4777	-1.8907	0.0066	0.0950	-0.0137	0.5216	0.2883	0.2333	-0.7631
14	20.36	-0.01	2.7450	-1.9154	0.0257	0.0540	-0.0136	0.5173	0.2888	0.2285	-0.6978
15	21.39	-0.01	2.9660	-1.9066	0.0453	-0.0049	-0.0047	0.5136	0.2922	0.2214	-0.6428
16	22.44	-0.01	3.2336	-1.7938	0.0386	0.0224	-0.0076	0.5064	0.2898	0.2165	-0.5547
17	23.52	-0.01	3.5071	-1.6833	0.0578	-0.0090	-0.0020	0.5009	0.2887	0.2122	-0.4800
18	24.55	-0.01	3.7862	-1.5602	0.0780	-0.0471	0.0050	0.4953	0.2905	0.2048	-0.4121
19	25.63	-0.01	4.1054	-1.3867	0.0779	-0.0387	0.0000	0.4875	0.2870	0.2005	-0.3377
20	26.70	-0.01	4.4776	-1.3212	0.0504	0.0111	-0.0092	0.4806	0.2906	0.1900	-0.2951
21	27.75	-0.01	4.8026	-1.2498	0.0745	-0.0290	-0.0051	0.4788	0.2971	0.1818	-0.2786
22	28.83	-0.01	5.0994	-1.2321	0.0987	-0.1017	-0.0059	0.4763	0.2981	0.1783	-0.2416
23	29.90	-0.01	5.3381	-1.0982	0.0429	-0.0634	-0.0190	0.4788	0.3036	0.1752	-0.2057
24	30.95	-0.01	5.5469	-0.8837	0.1407	-0.1848	-0.0246	0.4757	0.3103	0.1654	-0.1593

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC) PROPULSION WIND TUNNEL FACILITY(PWT) AERODYNAMIC WIND TUNNEL(AT)  
 PAGE 1 OF 1 MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART MACH RATIO-6											
1 91 1.20 2.3 0.0 H40F21 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CA9	CAF	XCP
1	0.01	-0.00	-0.0058	0.1302	-0.0019	0.0149	-0.0199	0.5058	0.1976	0.3182	-22.2826
2	2.03	-0.00	0.2342	-0.3034	0.0016	0.0047	-0.0212	0.5031	0.1746	0.3235	-1.2702
3	2.03	-0.00	0.2291	-0.2644	0.0006	0.0172	-0.0212	0.5020	0.1629	0.3191	-1.1563
4	4.04	-0.00	0.4543	-0.6038	0.0030	0.0160	-0.0242	0.4982	0.1760	0.3218	-1.3298
5	6.04	-0.00	0.6442	-0.9413	0.0064	0.0023	-0.0249	0.5107	0.1489	0.3418	-1.3678
6	8.07	-0.00	0.9315	-1.2267	0.0049	-0.0036	-0.0242	0.5216	0.1808	0.3409	-1.3168
7	10.09	-0.00	1.1752	-1.4361	0.0085	0.0004	-0.0233	0.5243	0.1907	0.3336	-1.2189
8	12.14	-0.00	1.4471	-1.5795	0.0014	0.0155	-0.0198	0.5206	0.1954	0.3253	-1.0915
9	14.17	-0.00	1.7243	-1.6604	0.0034	0.0262	-0.0250	0.5164	0.1988	0.3176	-0.9629
10	16.25	-0.01	1.9564	-1.2874	0.0163	0.0129	-0.0316	0.5318	0.1993	0.3325	-0.6588
11	17.29	-0.01	2.1334	-1.2659	0.0230	0.0028	-0.0326	0.5345	0.2081	0.3263	-0.5934
12	18.35	-0.01	2.3555	-1.2545	0.0115	0.0300	-0.0321	0.5322	0.2178	0.3144	-0.5326
13	19.41	-0.01	2.6245	-1.2583	0.0053	0.0450	-0.0349	0.5287	0.2239	0.3048	-0.4794
14	20.46	-0.01	2.8941	-1.2314	0.0178	0.0240	-0.0321	0.5272	0.2295	0.2927	-0.4257
15	21.51	-0.01	3.1599	-1.1695	0.0390	-0.0049	-0.0309	0.5175	0.2332	0.2843	-0.3701
16	22.55	-0.01	3.4361	-1.0954	0.0466	-0.0127	-0.0296	0.5122	0.2356	0.2766	-0.3188
17	23.63	-0.01	3.7124	-0.9966	0.0463	-0.0104	-0.0270	0.5074	0.2373	0.2701	-0.2604
18	24.70	-0.01	3.9917	-0.8941	0.0550	-0.0159	-0.0272	0.5029	0.2423	0.2606	-0.2248
19	25.77	-0.01	4.3122	-0.8239	0.0610	-0.0224	-0.0261	0.4993	0.2464	0.2529	-0.1911
20	26.81	-0.01	4.6462	-0.7894	0.0649	-0.0753	-0.0226	0.4987	0.2529	0.2458	-0.1708
21	27.91	-0.01	4.9641	-0.7772	0.1252	-0.1372	-0.0188	0.4944	0.2593	0.2351	-0.1566
22	28.94	-0.01	5.2613	-0.7687	0.1456	-0.1740	-0.0219	0.4900	0.2598	0.2302	-0.1461
23	30.01	-0.01	5.5602	-0.7442	0.1755	-0.2737	-0.0187	0.4880	0.2666	0.2214	-0.1338
24	31.06	-0.01	5.9181	-0.8406	0.2423	-0.4527	-0.0132	0.4874	0.2711	0.2163	-0.1420

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART NAME RX10-6											
1 92 1.30 2.3 0.0 0.40F21 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	KCP
1	0.01	-0.00	-0.0255	0.1511	0.0067	-0.0106	-0.0100	0.4809	0.1693	0.3116	-5.9168
2	2.04	-0.00	0.1880	-0.1263	0.0039	0.0041	-0.0072	0.4769	0.1713	0.3057	-0.6704
3	4.01	-0.00	0.3956	-0.3744	0.0042	0.0119	-0.0061	0.4757	0.1705	0.3052	-0.9461
4	6.01	-0.00	0.6143	-0.6164	0.0075	0.0068	-0.0080	0.4854	0.1643	0.3217	-1.0066
5	8.09	-0.00	0.8564	-0.8533	0.0100	0.0066	-0.0100	0.4958	0.1658	0.3300	-0.9963
6	10.09	-0.00	1.1141	-1.0597	0.0117	0.0115	-0.0093	0.5011	0.1717	0.3293	-0.9511
7	11.14	-0.00	1.2516	-1.1448	0.0102	0.0151	-0.0083	0.5025	0.1782	0.3243	-0.9146
8	12.16	-0.00	1.3935	-1.2075	0.0097	0.0191	-0.0060	0.5025	0.1820	0.3205	-0.8665
9	13.18	-0.00	1.5366	-1.2519	0.0063	0.0260	-0.0066	0.5024	0.1858	0.3166	-0.8147
10	14.22	-0.00	1.6928	-1.2816	0.0030	0.0330	-0.0056	0.5019	0.1881	0.3137	-0.7571
11	15.28	-0.00	1.8673	-1.2940	0.0009	0.0387	-0.0066	0.5005	0.1908	0.3097	-0.6960
12	16.29	-0.00	2.0436	-1.3051	0.0017	0.0369	-0.0118	0.4994	0.1958	0.3037	-0.6386
13	17.27	-0.00	2.2472	-1.2874	0.0037	0.0358	-0.0114	0.4971	0.1998	0.2974	-0.5731
14	18.34	-0.01	2.5086	-1.2308	0.0015	0.0571	-0.0070	0.4967	0.2044	0.2923	-0.4922
15	20.47	-0.01	2.9915	-1.0243	0.0274	0.0137	-0.0117	0.4998	0.2126	0.2872	-0.3424
16	22.61	-0.01	3.5290	-0.8502	0.0519	-0.0303	-0.0081	0.5006	0.2253	0.2753	-0.2409
17	22.62	-0.01	3.5409	-0.8234	0.0511	-0.0253	-0.0082	0.4992	0.2249	0.2743	-0.2327
18	24.74	-0.01	4.1328	-0.7996	0.0501	-0.0143	-0.0112	0.4948	0.2320	0.2628	-0.1935
19	25.82	-0.01	4.4480	-0.7853	0.0484	-0.0150	-0.0114	0.4950	0.2377	0.2573	-0.1766
20	26.86	-0.01	4.7881	-0.8245	0.0556	-0.0306	-0.0074	0.4946	0.2430	0.2516	-0.1722
21	27.90	-0.01	5.1120	-0.8861	0.0762	-0.0673	-0.0063	0.4935	0.2477	0.2458	-0.1737
22	28.96	-0.01	5.4554	-0.9715	0.0741	-0.0413	-0.0131	0.4966	0.2531	0.2435	-0.1781
23	30.04	-0.01	5.7771	-1.0702	0.0937	-0.0792	-0.0133	0.4999	0.2581	0.2418	-0.1852
24	31.06	-0.01	6.1311	-1.2337	0.1167	-0.1337	-0.0094	0.5034	0.2644	0.2390	-0.2012

TEST PART MACH RX10-6											
1 97 0.60 2.3 0.0 840F35 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	0.00	-0.00	0.0245	-0.0367	-0.0191	0.0747	-0.0628	0.2877	0.0870	0.2007	-1.4153
2	1.97	-0.00	0.5670	-1.5260	-0.0154	0.0731	-0.0620	0.3049	0.0823	0.2226	-2.6918
3	3.96	-0.00	1.0940	-3.0515	-0.0177	0.0873	-0.0631	0.3170	0.0856	0.2314	-2.7893
4	5.95	-0.01	1.7728	-4.6888	-0.0130	0.0849	-0.0717	0.3417	0.0888	0.2529	-2.7577
5	7.90	-0.01	2.4494	-6.7514	-0.0094	0.0875	-0.0766	0.3845	0.0957	0.2888	-2.7564
6	9.89	-0.01	3.1415	-8.6936	-0.0057	0.0734	-0.0759	0.4199	0.1058	0.3140	-2.7673
8	13.85	-0.01	4.5384	-12.3781	0.0014	0.0403	-0.0639	0.4771	0.1201	0.3571	-2.7271
9	15.79	-0.01	5.2344	-13.9744	0.0103	0.0390	-0.0690	0.4879	0.1307	0.3572	-2.6735
10	16.85	-0.01	5.4348	-14.3064	-0.0445	0.2540	0.0268	0.4852	0.1375	0.3478	-2.6324
11	17.84	-0.01	5.8085	-14.5287	0.0173	0.0356	-0.0754	0.5131	0.1287	0.3844	-2.5985
12	17.84	-0.01	5.6559	-14.6643	0.0200	0.0300	-0.0747	0.4871	0.1769	0.3102	-2.5927
13	18.83	-0.01	5.8525	-14.8491	0.0344	0.0215	-0.0869	0.5053	0.1698	0.3355	-2.5458
14	19.88	-0.02	6.0549	-15.0560	0.0254	0.0969	-0.0835	0.4908	0.1826	0.3082	-2.4886
15	20.90	-0.02	6.3010	-15.2971	0.0219	0.1364	-0.0807	0.4825	0.1934	0.2891	-2.4277
16	21.91	-0.02	6.4075	-15.1456	0.0147	0.1421	-0.0585	0.4718	0.1919	0.2799	-2.3637
17	22.97	-0.02	6.6403	-15.3604	0.0021	0.2590	0.0031	0.4958	0.2143	0.2815	-2.3132
18	23.97	-0.02	6.7647	-15.3216	-0.0476	0.4799	0.0583	0.5012	0.2320	0.2692	-2.2649
19	24.95	-0.02	6.9434	-15.4347	-0.0028	0.4182	0.1046	0.4890	0.2502	0.2389	-2.2228
20	26.00	-0.02	7.0832	-15.3650	-0.0538	0.6761	0.1605	0.5036	0.2680	0.2356	-2.1692
21	26.00	-0.03	7.1176	-15.4330	-0.0690	0.7197	0.1652	0.5001	0.2905	0.2095	-2.1683
22	27.01	-0.03	7.2902	-15.4767	0.0023	0.6262	0.1551	0.4925	0.3114	0.1811	-2.1229
23	28.03	-0.03	7.4928	-15.5572	0.0601	0.5844	0.1456	0.4864	0.3131	0.1533	-2.0763
24	28.03	-0.03	7.4943	-15.5554	0.0164	0.5902	0.1489	0.4511	0.3321	0.1190	-2.0757
25	28.02	-0.03	7.5214	-15.6658	0.0472	0.5268	0.1498	0.4305	0.3438	0.0868	-2.0828
26	29.00	-0.04	7.6484	-15.7393	0.1013	0.6543	0.1906	0.4807	0.3437	0.1370	-2.0445
27	30.13	-0.04	7.9330	-15.8593	0.1565	0.4224	0.1288	0.4112	0.3547	0.0564	-1.9992
28	19.89	-0.01	6.0008	-14.8135	0.0339	0.0859	-0.0546	0.4389	0.2185	0.2203	-2.4688
29	19.89	-0.02	6.0106	-14.8636	0.0353	0.1057	-0.0563	0.4405	0.2009	0.2395	-2.4729
30	9.86	-0.00	3.2193	-9.1135	0.0239	-0.0346	-0.0505	0.3384	0.1002	0.2382	-2.8309
31	-0.00	0.00	0.0624	-0.1830	0.0057	-0.0741	-0.0351	0.2648	0.0855	0.1792	-2.9318



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)  
PAGE 1 OF 1  
SHEET 1 OF 1

PROPULSION WIND TUNNEL FACILITY (PWT)  
MARTIN MISSILE TAIL EFFECTS DATA

AERODYNAMIC WIND TUNNEL (AT)

TEST PART MACH RX10-6												PHI CONF		L		DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 94 0.85 2.3												0.0 0.400F35		0.0		0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP										
1	-0.00	0.00	0.0555	-0.1658	0.0055	-0.0753	-0.0323	0.2769	0.0493	0.1875	-2.9876										
2	1.96	-0.00	0.4400	-1.7268	0.0140	-0.0304	-0.0352	0.2896	0.0826	0.2069	-2.6982										
3	3.93	-0.00	1.2052	-3.4263	0.0155	-0.0763	-0.0379	0.3005	0.0494	0.2111	-2.8359										
4	5.93	-0.00	1.6756	-5.2876	0.0180	-0.0171	-0.0443	0.3199	0.0986	0.2213	-2.8192										
5	5.93	-0.00	1.8751	-5.3243	0.0180	-0.0198	-0.0439	0.3188	0.0931	0.2758	-2.8393										
6	7.87	-0.00	2.5665	-7.3440	0.0209	-0.0224	-0.0502	0.3454	0.1023	0.2431	-2.8615										
7	7.87	-0.00	2.5749	-7.3772	0.0210	-0.0226	-0.0503	0.3421	0.1049	0.2332	-2.8651										
8	7.87	-0.00	2.5711	-7.3567	0.0210	-0.0236	-0.0500	0.3393	0.1102	0.2291	-2.8613										
9	9.87	-0.00	3.2775	-9.3321	0.0263	-0.0347	-0.0494	0.3826	0.1133	0.2693	-2.8473										
10	11.85	-0.00	3.9833	-11.2297	0.0314	-0.0627	-0.0438	0.4221	0.1164	0.3056	-2.8192										
11	13.76	-0.00	4.6757	-13.0746	0.0365	-0.0781	-0.0465	0.4297	0.1277	0.3020	-2.7963										
12	15.90	-0.00	5.2912	-14.3896	0.0414	-0.0714	-0.0517	0.4654	0.1384	0.3249	-2.7195										
13	16.81	-0.01	5.4422	-14.4161	-0.0396	0.2672	0.0792	0.4635	0.1328	0.3306	-2.6490										
14	17.82	-0.01	5.5834	-14.4175	0.0587	-0.0446	-0.0611	0.4788	0.1449	0.3339	-2.5836										
15	18.82	-0.01	5.7981	-14.4748	0.0604	-0.0759	-0.0566	0.4806	0.1663	0.3144	-2.5310										
16	19.87	-0.01	5.9610	-14.6436	0.0462	0.0611	-0.0448	0.4408	0.1721	0.2687	-2.4650										
17	20.87	-0.02	6.1642	-14.7665	0.0181	0.1757	-0.0215	0.4259	0.1875	0.2384	-2.3988										
18	21.90	-0.02	6.3236	-14.8364	0.0164	0.2320	0.0296	0.4461	0.2053	0.2408	-2.3463										
19	22.98	-0.02	6.4978	-14.9119	-0.0164	0.4252	0.0854	0.4646	0.2306	0.2360	-2.2949										
20	23.97	-0.02	6.6711	-14.9662	-0.0484	0.4735	0.1217	0.4788	0.2379	0.2409	-2.2434										
21	25.01	-0.02	6.8744	-15.1192	-0.0083	0.4127	0.1357	0.4860	0.2639	0.2221	-2.1981										
22	25.01	-0.02	6.8666	-15.0444	-0.0247	0.4850	0.1373	0.4764	0.2716	0.2048	-2.1910										
23	25.99	-0.03	7.0321	-15.0914	-0.0590	0.7424	0.1830	0.4884	0.2840	0.2044	-2.1461										
24	27.05	-0.04	7.2209	-15.1824	-0.0636	0.9488	0.2234	0.4944	0.3080	0.1864	-2.1026										
25	28.07	-0.04	7.4217	-15.2325	0.0087	0.8244	0.2005	0.4777	0.3164	0.1607	-2.0524										
26	29.08	-0.06	7.6544	-15.3685	0.0443	1.0462	0.2418	0.5038	0.3504	0.1534	-2.0039										
27	30.13	-0.06	7.8803	-15.4000	0.2100	0.9700	0.3205	0.4989	0.3715	0.1273	-1.9542										
28	19.88	-0.01	5.9022	-14.4518	0.0079	0.1172	-0.0376	0.4174	0.2159	0.2015	-2.4485										
29	9.82	-0.00	3.2916	-9.4234	0.0302	-0.0535	-0.0420	0.3411	0.1367	0.2044	-2.8638										
30	-0.00	0.00	0.0703	-0.2003	0.0093	-0.0266	-0.0252	0.2662	0.0908	0.1754	-2.8476										

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1 103 1.10 2.3 0.0 H40F35 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	ACP
1	0.00	-0.00	-0.0031	0.0301	-0.0179	0.0437	-0.0446	0.5749	0.1430	0.4320	-9.6973
2	-0.00	-0.01	-0.0036	0.0024	-0.0301	0.1240	-0.0475	0.5805	0.1390	0.4415	-0.7846
3	0.00	-0.00	0.0008	-0.0002	-0.0244	0.0634	-0.0481	0.5750	0.1750	0.4000	-0.2246
4	1.97	-0.01	0.5714	-1.6762	-0.0267	0.1117	-0.0483	0.5851	0.1643	0.4208	-2.9314
5	3.90	-0.00	1.1737	-3.4265	-0.0146	0.0753	-0.0498	0.5842	0.1714	0.4128	-2.9194
6	7.90	-0.01	1.1819	-3.4516	-0.0211	0.0911	-0.0493	0.5868	0.1619	0.4249	-2.9204
7	5.87	-0.01	1.8024	-5.2414	-0.0194	0.1156	-0.0537	0.6075	0.1572	0.4503	-2.9080
8	7.85	-0.01	2.4318	-7.0243	-0.0119	0.0950	-0.0532	0.6394	0.1695	0.4699	-2.8885
9	9.81	-0.01	3.2004	-9.1222	-0.0023	0.0561	-0.0483	0.6908	0.2263	0.4646	-2.8503
10	9.81	-0.01	3.1954	-9.1205	0.0042	0.0403	-0.0504	0.6864	0.2184	0.4680	-2.8543
11	11.82	-0.01	3.8408	-10.7263	0.0068	0.0292	-0.0446	0.7407	0.2192	0.5210	-2.7927
12	13.82	-0.00	4.4043	-11.4347	0.0101	0.0042	-0.0449	0.7516	0.2218	0.5298	-2.7098
13	15.84	-0.01	4.7078	-11.9433	0.0165	-0.0030	-0.0537	0.7234	0.2353	0.4880	-2.5369
14	16.86	-0.01	4.9815	-11.9507	0.0014	0.0541	-0.0605	0.6899	0.2455	0.4444	-2.4481
15	17.91	-0.01	5.1916	-12.0660	0.0094	0.0756	-0.0565	0.6695	0.2419	0.4276	-2.3698
16	18.95	-0.01	5.3285	-12.2644	0.0017	0.1151	-0.0586	0.6734	0.2466	0.4271	-2.3017
17	19.99	-0.02	5.6044	-12.4483	0.0120	0.0955	-0.0657	0.7791	0.2468	0.5324	-2.2212
18	21.04	-0.02	5.6902	-12.6221	0.0236	0.0870	-0.0697	0.8109	0.2498	0.5610	-2.1429
19	22.06	-0.02	6.2143	-12.4186	0.0467	0.0402	-0.0797	0.7025	0.2535	0.4490	-2.0628
20	23.08	-0.02	6.5114	-12.4445	0.0218	0.0772	-0.0730	0.6652	0.2595	0.4057	-1.9878
21	24.14	-0.02	6.8364	-13.1314	0.0693	-0.0249	-0.0792	0.6467	0.2451	0.3816	-1.9208
22	25.22	-0.02	7.1720	-13.2701	0.0590	-0.0211	-0.0711	0.6307	0.2879	0.3428	-1.8503
23	25.23	-0.02	7.1457	-13.0847	0.0957	-0.0949	-0.0707	0.6339	0.3016	0.3324	-1.8311
24	26.29	-0.02	7.5401	-13.2464	0.1144	-0.0909	-0.0583	0.6700	0.3042	0.3658	-1.7560
25	27.35	-0.02	7.9543	-13.4383	0.1441	-0.1315	-0.0378	0.6848	0.3070	0.3774	-1.6894
26	28.43	-0.01	8.4065	-13.6591	0.1649	-0.2384	-0.0311	0.5928	0.3110	0.2818	-1.6260
27	29.46	-0.02	8.7627	-13.6608	0.0755	-0.0357	-0.0803	0.5841	0.3107	0.2733	-1.5818
28	30.51	-0.01	9.1018	-14.0142	0.1413	-0.2077	-0.0430	0.5650	0.3111	0.2539	-1.5397
29	20.00	-0.01	5.5395	-12.0969	0.0503	-0.1010	-0.0650	0.2993	0.3089	-0.0096	-2.1838
30	9.79	-0.01	3.1874	-9.1328	-0.0017	0.0401	-0.0438	0.6605	0.2639	0.3966	-2.8648
31	0.00	-0.00	0.0012	0.0129	-0.0128	0.0304	-0.0327	0.5958	0.2158	0.3808	10.8001

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MALM RX10-6											
1 104 1.24 2.3 0.0 84-0F35 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	0.01	0.00	-0.0319	0.1314	0.0185	-0.0097	-0.0331	0.6016	0.1963	0.4053	-4.1314
2	1.94	0.00	0.5352	-1.5050	0.0237	-0.1028	-0.0349	0.6078	0.1972	0.4106	-2.7962
3	3.91	0.00	1.1480	-3.2764	0.0277	-0.1046	-0.0340	0.6109	0.1976	0.4133	-2.8542
4	5.87	0.00	1.7695	-5.0647	0.0349	-0.1056	-0.0342	0.6212	0.1916	0.4296	-2.8651
5	7.87	0.00	2.4106	-6.8663	0.0354	-0.1023	-0.0375	0.6449	0.1955	0.4495	-2.8484
6	9.83	0.00	3.0534	-8.5634	0.0406	-0.1083	-0.0399	0.6750	0.2011	0.4739	-2.8047
7	11.78	0.00	3.6608	-10.0295	0.0444	-0.1042	-0.0383	0.6658	0.1961	0.4697	-2.8047
8	13.80	0.00	4.2415	-11.2453	0.0403	-0.1140	-0.0354	0.7307	0.1948	0.5359	-2.6513
9	15.88	0.00	4.6354	-11.5050	0.0362	-0.1241	-0.0296	0.7154	0.2015	0.5139	-2.4620
10	16.89	-0.00	4.8337	-11.5414	0.0373	-0.0909	-0.0311	0.6922	0.2052	0.4869	-2.3980
11	17.93	-0.00	5.0778	-11.7352	0.0544	-0.1358	-0.0377	0.6830	0.2171	0.4659	-2.3111
12	19.00	-0.00	5.3566	-11.8737	0.0446	-0.1152	-0.0411	0.6813	0.2233	0.4579	-2.2166
13	20.04	-0.00	5.6612	-12.0120	0.0421	-0.0740	-0.0444	0.6691	0.2253	0.4438	-2.1218
14	21.07	-0.01	5.9699	-12.1606	0.0650	-0.1185	-0.0551	0.6512	0.2287	0.4226	-2.0383
15	22.10	-0.01	6.2842	-12.3186	0.0592	-0.1151	-0.0546	0.6411	0.2327	0.4084	-1.9587
16	23.16	-0.01	6.6396	-12.5171	0.0924	-0.1652	-0.0573	0.6271	0.2393	0.3878	-1.8852
17	24.21	-0.01	6.9478	-12.6907	0.1041	-0.1816	-0.0583	0.6313	0.2466	0.3847	-1.8213
18	25.28	-0.01	7.3035	-12.8384	0.0997	-0.1423	-0.0545	0.6175	0.2528	0.3647	-1.7578
19	26.31	-0.01	7.6763	-13.0373	0.1536	-0.2456	-0.0548	0.6509	0.2585	0.3925	-1.6979
20	27.42	-0.01	8.0416	-13.2482	0.1871	-0.3783	-0.0459	0.6372	0.2483	0.3689	-1.6373
21	28.46	-0.01	8.4572	-13.4470	0.2036	-0.3672	-0.0295	0.6193	0.2436	0.3357	-1.5900
22	29.51	-0.01	8.7903	-13.5844	0.1985	-0.4032	-0.0450	0.6185	0.2497	0.3288	-1.5454
23	30.56	-0.00	9.1809	-13.8064	0.2214	-0.4935	-0.0284	0.5741	0.2974	0.2767	-1.5039
24	20.01	-0.00	5.6324	-11.8991	0.0606	-0.1434	-0.0481	0.5706	0.2479	0.2827	-2.1126
25	9.51	0.00	3.0450	-8.5769	0.0502	-0.1210	-0.0359	0.6420	0.2388	0.4032	-2.8167
26	0.01	0.00	-0.0281	0.1327	0.0176	-0.0831	-0.0302	0.5924	0.1995	0.3929	-4.7200

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)  
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PROPULSION WIND TUNNEL FACILITY(PWT)  
MARTIN MISSILE TAIL EFFECTS DATA

AERODYNAMIC WIND TUNNEL(AT)

TEST PART MALM RX10-6												
1 99 0.92 2.3 0.0 04-0F35 0.0												
DEL1 DEL2 DEL3 DEL4 TRANSITION												
0 0 0 0 0 UNKNOWN												
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	ACP	
1	-0.00	0.00	0.0637	-0.1844	0.0087	-0.0250	-0.0221	0.3007	0.0666	0.2341	-2.8993	
2	2.00	0.00	0.4402	-1.4285	0.0161	-0.0376	-0.0214	0.3133	0.0744	0.2388	-2.8560	
3	3.94	-0.00	1.2621	-3.6715	0.0163	-0.0307	-0.0237	0.3177	0.0814	0.2362	-2.9091	
4	5.90	-0.00	1.9372	-5.8477	0.0163	-0.0247	-0.0308	0.3384	0.0891	0.2493	-2.9154	
5	7.82	-0.00	2.4717	-7.4837	0.0245	-0.0374	-0.0383	0.3647	0.1026	0.2621	-2.9508	
6	7.82	-0.00	2.6724	-7.9014	0.0235	-0.0306	-0.0392	0.3724	0.0675	0.2449	-2.9567	
7	9.80	-0.00	3.4010	-10.0184	0.0295	-0.0501	-0.0402	0.4143	0.1026	0.3117	-2.9457	
8	11.80	-0.00	4.1232	-12.0006	0.0329	-0.0409	-0.0362	0.4533	0.1119	0.3414	-2.9105	
9	13.76	-0.00	4.6832	-13.2405	0.0383	-0.0496	-0.0380	0.4672	0.1217	0.3454	-2.8272	
10	15.78	-0.00	5.0111	-13.4322	0.0065	-0.0111	-0.0480	0.3957	0.1251	0.2706	-2.6805	
11	16.81	0.00	5.1724	-13.4771	0.0632	-0.1171	0.0214	0.4201	0.1294	0.2907	-2.6056	
12	17.85	-0.00	5.3530	-13.5902	0.0070	0.1175	0.0902	0.4115	0.1468	0.2646	-2.5388	
13	18.88	0.00	5.5247	-13.6042	0.0414	-0.1149	-0.0207	0.4362	0.1704	0.2653	-2.4633	
14	19.87	-0.01	5.7096	-13.7041	0.0562	-0.0485	-0.0089	0.4564	0.1883	0.2681	-2.4011	
15	20.92	-0.02	5.9086	-13.8384	-0.0006	0.2441	0.0098	0.4396	0.2057	0.2339	-2.3422	
16	21.94	-0.02	6.1006	-13.9223	-0.0513	0.4615	0.0390	0.4498	0.2240	0.2258	-2.2821	
17	22.97	-0.03	6.2567	-13.9035	-0.0274	0.4732	0.0694	0.4817	0.2343	0.2474	-2.2222	
18	23.94	-0.02	6.4865	-14.0857	-0.0160	0.4207	0.1001	0.4719	0.2595	0.2123	-2.1715	
19	25.04	-0.03	6.7082	-14.1582	-0.0252	0.5944	0.1027	0.4663	0.2475	0.1987	-2.1106	
20	26.06	-0.03	6.9351	-14.2470	0.0167	0.5488	0.1002	0.4945	0.2850	0.2095	-2.0543	
21	27.10	-0.04	7.2362	-14.4148	0.0607	0.5700	0.1414	0.4507	0.2996	0.1512	-1.9928	
22	28.15	-0.02	7.5673	-14.5288	0.0736	0.3455	0.1443	0.4292	0.3044	0.1749	-1.9199	
23	29.23	-0.01	7.9285	-14.6028	0.0553	0.1449	0.0946	0.4178	0.3070	0.1109	-1.8418	
24	29.22	-0.01	7.9306	-14.6438	0.0762	0.0693	0.0897	0.4196	0.3210	0.0987	-1.8515	
25	30.30	-0.01	8.3378	-14.8423	0.0878	0.0426	0.0377	0.3948	0.3230	0.0718	-1.7802	
26	19.90	-0.03	5.6652	-13.5267	-0.0734	0.4959	0.0204	0.3941	0.2465	0.1475	-2.3877	
27	9.80	-0.00	3.4368	-10.1484	0.0312	-0.0510	-0.0382	0.3775	0.1364	0.2411	-2.9530	
28	-0.00	-0.00	0.0655	-0.1827	0.0087	-0.0171	-0.0202	0.2937	0.0915	0.2022	-2.7918	
29	-0.00	0.00	0.0633	-0.1758	0.0099	-0.0226	-0.0187	0.2934	0.0782	0.2152	-2.7778	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AECC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6												
1 100 0.98 2.3 0.0 H40F35 0.0 0 0 0 0 UNKNOWN												
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP	
1	-0.00	0.00	0.0613	-0.1774	0.0094	-0.0294	-0.0295	0.4100	0.0478	0.3422	-2.8967	
2	-0.00	0.00	0.0615	-0.1781	0.0094	-0.0359	-0.0297	0.4167	0.0974	0.3194	-2.8944	
3	1.95	0.00	0.6274	-1.8066	0.0221	-0.0537	-0.0321	0.4268	0.1090	0.3178	-2.8727	
4	3.91	-0.00	1.7514	-3.6286	0.0227	-0.0457	-0.0360	0.4251	0.1172	0.3079	-2.8998	
5	5.88	-0.00	1.9154	-5.5870	0.0259	-0.0382	-0.0410	0.4545	0.1153	0.3392	-2.9161	
6	7.85	-0.00	2.6039	-7.6084	0.0251	-0.0362	-0.0432	0.4869	0.1280	0.3589	-2.9163	
7	9.81	-0.00	3.2648	-9.5206	0.0262	-0.0509	-0.0406	0.5240	0.1367	0.3873	-2.8984	
8	11.78	-0.00	3.9757	-11.3789	0.0291	-0.0690	-0.0359	0.5612	0.1520	0.4092	-2.8592	
9	11.78	-0.00	3.9766	-11.3717	0.0303	-0.0706	-0.0341	0.5602	0.1515	0.4088	-2.8597	
10	13.73	-0.00	4.5531	-12.7321	0.0341	-0.0554	-0.0367	0.5704	0.1594	0.4110	-2.7963	
11	15.83	-0.01	4.8824	-12.9332	0.0309	-0.0269	-0.0402	0.5121	0.1494	0.3427	-2.6488	
12	16.81	-0.01	5.0494	-13.0856	0.0446	-0.0471	-0.0537	0.5212	0.1463	0.3349	-2.5813	
13	16.81	-0.01	5.0413	-12.9719	0.0476	-0.0477	-0.0544	0.5072	0.1751	0.3321	-2.5731	
14	17.88	-0.01	5.2561	-13.1305	0.0530	-0.0459	-0.0604	0.5555	0.1921	0.3634	-2.4972	
15	18.92	-0.01	5.4404	-13.1745	0.0517	-0.0043	-0.0664	0.4614	0.2014	0.2608	-2.4214	
16	19.93	-0.00	5.6655	-13.2561	0.0405	-0.0757	0.0567	0.5642	0.2097	0.3545	-2.3398	
17	20.97	-0.01	5.8836	-13.4034	0.0927	-0.0667	0.0361	0.6045	0.2299	0.3745	-2.2781	
18	22.04	-0.01	6.1651	-13.4743	0.0638	0.0007	-0.0463	0.5555	0.2349	0.3206	-2.1864	
19	23.02	-0.00	6.4224	-13.6193	0.0560	-0.0342	0.0236	0.5630	0.2481	0.3149	-2.1294	
20	24.08	-0.00	6.7040	-13.7458	0.0769	-0.0766	0.0716	0.4923	0.2599	0.2324	-2.0492	
21	25.11	-0.01	7.0071	-13.8404	0.0946	0.0105	0.1082	0.4548	0.2740	0.1808	-1.9809	
22	26.14	-0.00	7.3356	-14.0184	0.0999	0.0441	0.1692	0.4644	0.2940	0.1804	-1.9110	
23	27.20	0.00	7.7377	-14.1953	0.1651	-0.1014	0.2453	0.4867	0.2939	0.1928	-1.8346	
24	28.29	-0.00	8.1480	-14.3988	0.1707	-0.0315	0.2238	0.4325	0.3040	0.1285	-1.7672	
25	29.35	0.00	8.6157	-14.5552	0.1144	-0.1826	0.0575	0.4333	0.2984	0.1349	-1.6894	
26	30.44	0.01	9.0668	-14.7945	0.1459	-0.2051	0.1291	0.3943	0.3042	0.0901	-1.6317	
27	19.93	-0.00	5.6526	-13.0876	0.0964	-0.1256	0.0574	0.0777	0.2933	-0.2157	-2.3152	
28	9.79	-0.00	3.3181	-9.6544	0.0298	-0.0479	-0.0390	0.4887	0.2036	0.2851	-2.9096	
29	-0.00	0.00	0.0677	-0.1903	0.0127	-0.0304	-0.0246	0.4089	0.1036	0.3053	-2.8132	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)  
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PROPULSION WIND TUNNEL FACILITY(PWT)  
MARTIN MISSILE TAIL EFFECTS DATA

AERODYNAMIC WIND TUNNEL(4T)

TEST PWT MACH R410-6											
1 105 1.30 2.3 0.0 B4W0F35 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	KCP
1	0.01	0.00	-0.0507	0.2176	0.0030	-0.0530	-0.0211	0.5696	0.1949	0.3747	-4.2947
2	1.98	0.00	0.4937	-1.2642	0.0045	-0.0514	-0.0253	0.5754	0.1994	0.3761	-2.5631
3	3.94	0.00	1.0493	-2.8861	0.0127	-0.0511	-0.0283	0.5742	0.1968	0.3774	-2.7505
4	5.91	0.00	1.6358	-4.4845	0.0123	-0.0373	-0.0275	0.5888	0.1960	0.3928	-2.7415
5	7.88	-0.00	2.2488	-6.1831	0.0238	-0.0497	-0.0283	0.6081	0.1929	0.4151	-2.7495
6	9.84	-0.00	2.8568	-7.7424	0.0323	-0.0584	-0.0279	0.6391	0.1958	0.4433	-2.7102
7	11.84	-0.00	3.4576	-9.1587	0.0366	-0.0779	-0.0292	0.6667	0.1963	0.4704	-2.6489
8	13.85	0.00	4.0778	-10.4643	0.0362	-0.0986	-0.0281	0.6492	0.1979	0.5013	-2.5662
9	15.84	0.00	4.6060	-11.2233	0.0446	-0.1208	-0.0289	0.7029	0.2026	0.5003	-2.4367
10	16.92	0.00	4.8521	-11.3639	0.0431	-0.1196	-0.0187	0.6790	0.2097	0.4693	-2.3421
11	17.96	0.00	5.1375	-11.5212	0.0419	-0.1233	-0.0181	0.6676	0.2157	0.4520	-2.2426
12	17.97	0.00	5.1219	-11.4271	0.0409	-0.1018	-0.0151	0.6528	0.2261	0.4267	-2.2310
13	19.02	0.00	5.4004	-11.5012	0.0535	-0.1469	-0.0256	0.6390	0.2345	0.4045	-2.1297
14	20.07	-0.00	5.7221	-11.7033	0.0455	-0.1162	-0.0289	0.6519	0.2348	0.4171	-2.0453
15	20.07	-0.00	5.7198	-11.6362	0.0436	-0.1071	-0.0247	0.6093	0.2411	0.3682	-2.0344
16	21.12	-0.00	6.0704	-11.8238	0.0561	-0.1196	-0.0340	0.6362	0.2432	0.3930	-1.9842
17	21.12	-0.00	6.0528	-11.8280	0.0647	-0.1547	-0.0341	0.6399	0.2517	0.3882	-1.9541
18	22.18	-0.01	6.3530	-11.8706	0.0615	-0.0988	-0.0313	0.6035	0.2592	0.3443	-1.8685
19	22.18	-0.00	6.3691	-11.8948	0.0320	-0.0814	-0.0343	0.6222	0.2583	0.3640	-1.8676
20	23.23	-0.00	6.7010	-12.1005	0.0754	-0.1484	-0.0382	0.6182	0.2581	0.3601	-1.8050
21	24.29	-0.01	7.0552	-12.3074	0.0792	-0.1067	-0.0414	0.6346	0.2607	0.3738	-1.7444
22	25.33	-0.01	7.4131	-12.5212	0.1365	-0.2243	-0.0432	0.6125	0.2631	0.3494	-1.6891
23	25.34	-0.01	7.3932	-12.4385	0.0868	-0.1337	-0.0384	0.5866	0.2713	0.3153	-1.6824
24	26.42	-0.01	7.7487	-12.5376	0.1183	-0.1880	-0.0315	0.6121	0.2814	0.3309	-1.6188
25	27.45	-0.01	8.1247	-12.8005	0.1405	-0.2480	-0.0196	0.6267	0.2815	0.3451	-1.5755
26	28.53	-0.00	8.4782	-12.8082	0.1532	-0.3082	-0.0184	0.6014	0.3174	0.2841	-1.5107
27	29.59	-0.00	8.8488	-13.0254	0.1752	-0.3721	-0.0133	0.6124	0.3189	0.2935	-1.4721
28	30.65	-0.01	9.1985	-13.1426	0.1549	-0.2820	-0.0218	0.6196	0.3239	0.2958	-1.4288
29	20.08	0.00	5.6941	-11.4762	0.0447	-0.1241	-0.0211	0.5711	0.3084	0.2627	-2.0155
30	9.85	-0.00	2.8533	-7.7545	0.0267	-0.0600	-0.0262	0.6072	0.2333	0.3739	-2.7177
31	0.01	0.00	-0.0450	0.1400	0.0003	-0.0382	-0.0169	0.5623	0.2056	0.3566	-4.2211

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC) ... PROPULSION WIND TUNNEL FACILITY (PWT) ... AERODYNAMIC WIND TUNNEL (4T)  
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 MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1 106 0.65 2.3 0.0 640F35 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	META	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	KCP
1	-0.00	0.00	0.0024	-0.0020	-0.0061	0.0002	0.0082	0.2743	0.0844	0.1898	-0.5143
3	1.97	0.00	0.5512	-1.5598	-0.0024	-0.0040	0.0053	0.2871	0.0870	0.2002	-2.8296
4	3.95	0.00	1.1537	-3.2643	0.0025	-0.0090	0.0027	0.2927	0.0930	0.1997	-2.8335
5	5.91	-0.00	1.7440	-5.1092	0.0023	-0.0005	-0.0035	0.3098	0.0929	0.2170	-2.8479
6	7.88	-0.00	2.4944	-7.1446	0.0049	-0.0064	-0.0060	0.3257	0.1032	0.2225	-2.8643
7	9.84	0.00	3.2063	-9.1646	0.0095	-0.0225	-0.0035	0.3478	0.1117	0.2361	-2.8590
8	11.81	0.00	3.9345	-11.1485	0.0134	-0.0455	0.0024	0.3807	0.1144	0.2663	-2.8334
9	13.79	0.00	4.6384	-12.9645	0.0113	-0.0642	0.0116	0.4101	0.1227	0.2874	-2.7961
10	15.79	0.00	5.2247	-14.2520	0.0044	-0.0601	0.0170	0.4253	0.1273	0.2979	-2.7278
11	16.81	0.00	5.4177	-14.4023	0.0139	-0.0782	0.0200	0.3969	0.1297	0.2672	-2.6584
12	17.83	0.00	5.5721	-14.4481	0.0311	-0.1268	-0.0093	0.4550	0.1411	0.3139	-2.5929
13	18.85	0.00	5.7564	-14.5941	0.0254	-0.1109	0.0029	0.4350	0.1567	0.2783	-2.5353
14	18.86	0.00	5.7255	-14.4743	0.0326	-0.1311	0.0009	0.4305	0.1580	0.2725	-2.5207
15	19.86	0.00	5.9248	-14.6162	0.0150	-0.0744	0.0098	0.3913	0.1767	0.2146	-2.4670
16	20.90	-0.00	6.1024	-14.6778	0.0318	-0.0313	0.0047	0.3964	0.1844	0.2120	-2.4052
17	21.93	-0.01	6.2472	-14.7653	0.0674	-0.0827	0.0253	0.3591	0.1971	0.1620	-2.3447
18	22.95	-0.01	6.4674	-14.8387	0.0226	0.1235	0.0582	0.4006	0.2144	0.1862	-2.2944
19	23.97	-0.01	6.6851	-15.0339	0.0431	0.1611	0.1034	0.4190	0.2370	0.1820	-2.2489
20	23.97	-0.01	6.6335	-14.8132	0.0391	0.1326	0.0926	0.4125	0.2338	0.1747	-2.2331
21	25.00	-0.01	6.8310	-14.9344	-0.0194	0.3354	0.1522	0.4353	0.2708	0.1645	-2.1863
22	26.02	-0.02	6.9921	-15.0002	0.0020	0.5496	0.1966	0.4142	0.2885	0.1257	-2.1453
23	27.05	-0.02	7.2322	-15.1269	0.0129	0.5580	0.1858	0.4098	0.3068	0.1031	-2.0916
24	28.08	-0.03	7.4302	-15.1618	0.0544	0.5793	0.1727	0.4001	0.3127	0.0874	-2.0405
25	29.10	-0.04	7.6574	-15.2567	0.1346	0.5238	0.2056	0.3956	0.3280	0.0676	-1.9923
26	30.13	-0.04	7.8517	-15.3575	0.2300	0.5838	0.3351	0.4326	0.3438	0.0488	-1.9559
27	19.89	-0.00	5.8450	-14.4406	-0.0130	0.0837	0.0412	0.3848	0.2596	0.1252	-2.4496
28	9.83	0.00	3.2659	-9.3470	0.0404	-0.1312	0.0099	0.3329	0.1464	0.1865	-2.8773
29	-0.00	0.00	0.0413	-0.1383	0.0160	-0.0807	0.0234	0.2703	0.0981	0.1722	-3.3460

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AEDC-TR-75-125

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART	MACH	RX10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	111	0.00	2.3	0.0	0.40F34	0.0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	KCP
1	-0.00	-0.01	0.0213	-0.0518	-0.0592	0.1949	-0.0738	0.2906	0.0890	0.2017	-2.4336
2	1.98	-0.01	0.5834	-1.5964	-0.0545	0.1644	-0.0730	0.3206	0.0487	0.2319	-2.7371
3	3.95	-0.01	1.2010	-3.3674	-0.0457	0.1745	-0.0819	0.3539	0.0877	0.2662	-2.7672
4	5.91	-0.01	1.9173	-5.5224	-0.0438	0.1661	-0.0918	0.3837	0.0995	0.2842	-2.8805
5	7.86	-0.01	2.5977	-7.6140	-0.0324	0.1265	-0.0946	0.3468	0.1008	0.2860	-2.9310
6	9.82	-0.01	3.2615	-9.5972	-0.0324	0.1322	-0.0860	0.4086	0.1042	0.3043	-2.9426
7	11.82	-0.01	3.7449	-10.8886	-0.0324	0.1251	-0.0873	0.4465	0.1217	0.3268	-2.9045
8	13.82	-0.01	4.0668	-11.4277	-0.0341	0.1219	-0.0806	0.4637	0.1370	0.3267	-2.8086
9	15.83	-0.00	4.3047	-11.5489	-0.0390	0.0902	-0.0693	0.4908	0.1619	0.3789	-2.6629
10	16.87	-0.01	4.3260	-11.3251	-0.0632	0.1857	-0.0356	0.5127	0.1969	0.3158	-2.6179
11	17.89	-0.01	4.4753	-11.4090	-0.0545	0.1901	-0.0526	0.5448	0.2393	0.3055	-2.5493
12	18.91	-0.01	4.5944	-11.4500	-0.0445	0.2745	-0.0482	0.5833	0.2640	0.3193	-2.4897
13	19.92	-0.01	4.7221	-11.5535	-0.0440	0.2743	-0.0603	0.6174	0.3054	0.3119	-2.4255
14	20.94	-0.01	4.8361	-11.4383	-0.0205	0.1009	-0.1032	0.6538	0.3375	0.3163	-2.3652
15	21.96	-0.01	5.0702	-11.6776	-0.0165	0.1048	-0.1141	0.6839	0.3636	0.3703	-2.3032
16	22.97	-0.02	5.2528	-11.4435	-0.0245	0.1780	-0.1106	0.6896	0.4214	0.2682	-2.2642
17	22.97	-0.01	5.2792	-11.9374	-0.0595	0.1752	-0.1272	0.6914	0.4245	0.2671	-2.2612
18	23.94	-0.03	5.5258	-12.3296	-0.0230	0.3066	-0.1365	0.7100	0.4340	0.2760	-2.2313
20	24.99	-0.03	5.8074	-12.6469	-0.0462	0.3341	-0.1530	0.7110	0.4582	0.2528	-2.2122
21	26.00	-0.04	6.1053	-13.3756	-0.0134	0.4066	-0.1796	0.7135	0.4746	0.2340	-2.1908
22	27.00	-0.04	6.3818	-13.9015	0.0347	0.3025	-0.2043	0.7072	0.4889	0.2183	-2.1783
23	28.01	-0.06	6.7414	-14.5330	0.0791	0.4488	-0.2205	0.6965	0.4909	0.2076	-2.1550
24	29.03	-0.07	6.9584	-14.7707	0.1530	0.4034	-0.2398	0.6729	0.4953	0.1776	-2.1227
25	30.05	-0.06	7.1703	-14.4013	0.1324	0.4115	-0.2186	0.6550	0.5026	0.1523	-2.0762
26	19.92	-0.01	4.7741	-11.6361	-0.0674	0.2736	-0.0601	0.5827	0.4159	0.1668	-2.4373
27	9.82	-0.01	3.3278	-9.9003	-0.0353	0.1597	-0.0764	0.2962	0.2278	0.0684	-2.9750
28	-0.01	-0.01	0.0453	-0.2045	-0.0532	0.1904	-0.0655	0.2328	0.1062	0.1266	-4.6202



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART MACH RX10-6											
1 112 0.65 2.3 0.0 B4W0F34 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-0.01	-0.01	0.0336	-0.1621	-0.0576	0.1975	-0.0704	0.2413	0.0882	0.1531	-4.8228
2	1.97	-0.01	0.6228	-1.5007	-0.0479	0.1634	-0.0701	0.2383	0.0886	0.1498	-2.8914
3	3.93	-0.01	1.1074	-3.3197	-0.0446	0.1620	-0.0738	0.2377	0.0880	0.1496	-2.9966
4	5.88	-0.01	2.0016	-5.9679	-0.0390	0.1556	-0.0830	0.2724	0.0868	0.1846	-2.9816
5	7.84	-0.01	2.7174	-8.1526	-0.0369	0.1511	-0.0820	0.3251	0.1040	0.2211	-3.0881
6	9.81	-0.01	3.2966	-9.8099	-0.0355	0.1537	-0.0866	0.3802	0.1062	0.2739	-2.9758
7	10.74	-0.01	3.5766	-10.5736	-0.0346	0.1471	-0.0885	0.3972	0.1150	0.2821	-2.9563
8	11.79	-0.01	3.8135	-11.1940	-0.0311	0.1336	-0.0911	0.4103	0.1207	0.2897	-2.9354
9	13.80	-0.01	4.1439	-11.8836	-0.0360	0.1351	-0.0722	0.4533	0.1350	0.3182	-2.8677
10	15.81	-0.00	4.3878	-12.0263	-0.0350	0.0812	-0.0684	0.4845	0.1654	0.3191	-2.7488
11	16.85	-0.01	4.4784	-11.6760	-0.0646	0.1874	-0.0423	0.5214	0.2104	0.3110	-2.6520
12	17.85	-0.01	4.5969	-11.9281	-0.0620	0.2477	-0.0419	0.5556	0.2385	0.3171	-2.5944
13	18.87	-0.01	4.7336	-11.4796	-0.0943	0.2833	-0.0371	0.5850	0.2765	0.3085	-2.5307
14	19.84	-0.01	4.8602	-11.4353	-0.0767	0.1917	-0.0530	0.6204	0.3075	0.3129	-2.4557
15	19.90	-0.01	4.8588	-11.4541	-0.0812	0.2938	-0.0667	0.6298	0.3253	0.3045	-2.4683
16	20.91	-0.01	4.9894	-11.4627	-0.0035	0.0524	-0.0956	0.6591	0.3499	0.3092	-2.3976
17	21.94	-0.01	5.2032	-12.1514	0.0139	-0.0846	-0.1177	0.6802	0.3773	0.3029	-2.3354
18	22.97	-0.01	5.4156	-12.3865	-0.0292	0.1072	-0.1189	0.6939	0.3999	0.2940	-2.2872
19	23.97	-0.04	5.6754	-12.7763	-0.0420	0.4294	-0.1502	0.7013	0.4162	0.2851	-2.2512
20	24.99	-0.03	5.9472	-13.2478	-0.0157	0.3240	-0.1431	0.7174	0.4341	0.2833	-2.2276
21	25.99	-0.03	6.2255	-13.7133	-0.0103	0.2854	-0.1401	0.7236	0.4551	0.2685	-2.2028
22	26.99	-0.04	6.4673	-14.0678	0.0554	0.2877	-0.1612	0.7159	0.4752	0.2406	-2.1752
23	28.03	-0.04	6.6838	-14.1884	0.0462	0.3146	-0.1761	0.6938	0.4775	0.2163	-2.1228
24	29.06	-0.05	6.9864	-14.3943	0.1631	0.1989	-0.1616	0.6810	0.4955	0.1855	-2.0683
25	30.10	-0.06	7.2205	-14.5260	0.3693	-0.0542	-0.1825	0.6609	0.5161	0.1448	-2.0118
26	19.40	-0.02	4.8341	-11.8973	-0.0839	0.3523	-0.0593	0.6081	0.4520	0.1560	-2.4611
27	9.80	-0.01	3.3011	-9.9415	-0.0362	0.1620	-0.0791	0.3123	0.2081	0.1042	-3.0116
28	-0.01	-0.01	0.0508	-0.2165	-0.0582	0.2080	-0.0646	0.2353	0.0986	0.1367	-4.2589

## ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

## PROPULSION WIND TUNNEL FACILITY(PWT)

## AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 115 0.94 2.3 0.0 0.00F34 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAN	CAF	XCP
1	-0.00	-0.01	0.0192	-0.0510	-0.0525	0.1926	-0.0669	0.3101	0.0916	0.2285	-2.6487
2	1.97	-0.01	0.5944	-1.6274	-0.0444	0.1547	-0.0687	0.3088	0.0781	0.2307	-2.7386
3	3.93	-0.01	1.2869	-3.7253	-0.0332	0.1305	-0.0726	0.3165	0.0762	0.2383	-2.8948
4	5.88	-0.01	2.0151	-5.4202	-0.0354	0.1185	-0.0751	0.3451	0.0845	0.2606	-2.9379
5	7.83	-0.01	2.7576	-8.2692	-0.0219	0.1058	-0.0820	0.4072	0.0879	0.3194	-3.0068
6	9.76	-0.01	3.3114	-10.3452	-0.0106	0.0543	-0.0958	0.4740	0.0902	0.3838	-3.1241
7	11.75	-0.00	4.0196	-12.6262	-0.0055	0.0469	-0.0289	0.4817	0.0995	0.3822	-2.9919
8	13.76	-0.00	4.3841	-12.6552	-0.0110	0.0295	-0.0730	0.5257	0.1350	0.3907	-2.8908
9	15.79	-0.00	4.6172	-12.7810	-0.0190	0.0614	-0.0567	0.5559	0.1706	0.3853	-2.7681
10	16.81	-0.00	4.7315	-12.8123	-0.0439	0.1067	-0.0550	0.5646	0.2104	0.3742	-2.7079
12	17.83	-0.00	4.8417	-12.7701	-0.0513	0.0936	-0.0375	0.6224	0.3163	0.3061	-2.6375
13	18.85	-0.00	4.9540	-12.7537	-0.0764	0.1461	-0.0039	0.6598	0.3157	0.3441	-2.5744
14	18.85	-0.00	4.9753	-12.7790	-0.1013	0.2156	0.0061	0.6617	0.3376	0.3241	-2.5685
15	19.87	0.00	5.1187	-12.8292	-0.0693	0.1031	-0.0136	0.6901	0.3451	0.3050	-2.5063
16	20.91	0.01	5.3079	-12.8453	-0.0164	-0.1733	-0.0431	0.7122	0.3949	0.3174	-2.4389
17	21.92	0.01	5.4555	-12.8715	0.0174	-0.2507	-0.0747	0.7210	0.4137	0.3073	-2.3777
18	22.94	0.01	5.6364	-13.0828	0.0155	-0.1837	-0.0759	0.7286	0.4363	0.2923	-2.3211
19	23.97	0.00	5.8350	-13.1336	0.0207	-0.1224	-0.0738	0.7258	0.4848	0.2410	-2.2508
20	24.99	-0.01	6.0765	-13.3204	0.0683	0.0116	-0.0880	0.7287	0.4894	0.2392	-2.1922
21	26.01	-0.01	6.3086	-13.5045	0.0696	0.0675	-0.0899	0.7252	0.5038	0.2213	-2.1406
22	26.02	-0.01	6.3214	-13.4374	-0.0002	0.0978	-0.0793	0.7244	0.5194	0.2051	-2.1209
23	27.06	-0.01	6.5832	-13.6000	0.0621	0.2469	-0.0847	0.7100	0.5311	0.1789	-2.0659
24	28.10	-0.03	6.9071	-13.7190	0.0795	0.1463	-0.0679	0.7074	0.5164	0.1910	-1.9862
25	29.15	-0.02	7.2386	-13.8755	0.0040	0.1504	-0.0893	0.6881	0.5303	0.1578	-1.9169
26	30.19	-0.01	7.6174	-14.0680	-0.0686	0.2006	-0.0940	0.6774	0.5470	0.1304	-1.8468
27	30.20	-0.01	7.6035	-14.0226	-0.0834	0.2702	-0.0805	0.6744	0.5594	0.1150	-1.8443
28	19.88	0.01	5.0859	-12.6224	-0.0320	-0.0452	-0.0332	0.6786	0.4864	0.1922	-2.4818
29	19.86	0.00	5.1063	-12.7480	-0.0803	0.1137	-0.0004	0.6902	0.4539	0.2363	-2.4965
30	9.75	-0.01	3.4155	-11.1215	-0.0166	0.0949	-0.0695	0.3827	0.2251	0.1576	-3.0761
31	9.76	-0.01	3.6160	-11.0577	-0.0115	0.0609	-0.0620	0.3712	0.1743	0.1969	-3.0588
32	-0.00	-0.01	0.0622	-0.1712	-0.0467	0.1853	-0.0388	0.2915	0.0913	0.2002	-2.7520
33	0.00	-0.01	0.0446	-0.0922	-0.0414	0.1650	-0.0482	0.3284	0.0574	0.2710	-2.8694

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART	WALW	RK10-6	Pm1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION		
1	117	0.98	2.3	0.0	84W0F34	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	HFTA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	KCP	
1	0.00	-0.01	0.0443	-0.0485	-0.0527	0.2027	-0.0684	0.4326	0.0984	0.3342	-1.0965	
2	1.96	-0.01	0.4674	-1.9440	-0.0490	0.1883	-0.0659	0.4342	0.1052	0.3290	-2.9128	
3	3.91	-0.01	1.3733	-4.1364	-0.0376	0.1679	-0.0665	0.4443	0.1175	0.3248	-3.0122	
4	5.84	-0.01	2.1281	-6.5458	-0.0276	0.1428	-0.0794	0.4403	0.1163	0.3441	-3.0759	
5	5.84	-0.01	2.1360	-6.5660	-0.0327	0.1458	-0.0791	0.4481	0.1488	0.3393	-3.0749	
6	7.78	-0.01	2.9098	-9.0052	-0.0206	0.1033	-0.0863	0.5371	0.1532	0.3639	-3.0948	
7	9.73	-0.01	3.6194	-11.2282	-0.0147	0.0734	-0.0950	0.5490	0.1661	0.4229	-3.1022	
8	11.74	-0.01	4.0196	-11.9300	-0.0057	0.0399	-0.0980	0.5679	0.1431	0.3978	-2.9688	
9	13.78	-0.00	4.3080	-12.0788	-0.0183	0.0445	-0.0753	0.5052	0.1440	0.3213	-2.8838	
10	15.82	0.01	4.5849	-12.2130	-0.0280	0.0713	0.1787	0.5302	0.2001	0.3301	-2.6638	
11	16.84	-0.00	4.7077	-12.1953	-0.0540	0.1156	-0.0569	0.5387	0.2121	0.3266	-2.5985	
12	16.84	-0.00	4.7093	-12.2118	-0.0331	0.0293	-0.0609	0.5349	0.2466	0.2883	-2.5937	
13	17.86	-0.00	4.8655	-12.3059	-0.0340	0.0301	-0.0536	0.5104	0.2514	0.2590	-2.5277	
14	18.88	-0.00	5.0315	-12.4526	-0.0468	0.0763	-0.0539	0.5461	0.2636	0.2825	-2.4749	
15	19.91	-0.00	5.2151	-12.4673	-0.0342	0.0150	-0.0910	0.5675	0.2687	0.2988	-2.3944	
16	20.94	-0.00	5.4332	-12.5184	0.0323	-0.1778	-0.1694	0.5583	0.2717	0.2866	-2.3841	
17	21.96	0.01	5.6264	-12.5437	0.2792	-1.1042	-0.4345	0.6540	0.3069	0.3471	-2.2381	
18	23.01	0.01	5.8746	-12.7035	0.2602	-1.0176	-0.3919	0.6596	0.3807	0.2789	-2.1824	
19	24.06	-0.00	6.1726	-12.8645	0.1554	-0.6778	-0.3275	0.6820	0.3959	0.2861	-2.0849	
20	25.08	-0.01	6.4276	-12.9462	-0.0233	-0.0087	-0.1092	0.6964	0.4084	0.2880	-2.0219	
21	26.14	-0.01	6.7781	-13.1456	0.0141	0.0420	-0.0524	0.7054	0.4331	0.2723	-1.9394	
22	27.17	-0.02	7.0558	-13.2881	0.0641	0.1330	-0.0026	0.7111	0.4444	0.2467	-1.8833	
23	28.25	-0.01	7.5812	-13.5095	0.0492	0.0542	0.0704	0.6992	0.4641	0.2351	-1.7829	
24	29.30	-0.01	7.9838	-13.6480	0.0505	0.0387	-0.0143	0.6938	0.4822	0.2116	-1.7095	
25	29.30	-0.01	7.9227	-13.5854	0.0595	0.0121	-0.0065	0.6917	0.4949	0.1968	-1.7148	
26	29.30	-0.01	7.9749	-13.6664	0.0425	0.0137	-0.0162	0.6895	0.5129	0.1766	-1.7126	
27	30.36	-0.01	8.4040	-13.8907	-0.0231	0.0208	-0.1068	0.6785	0.5231	0.1554	-1.6529	
28	19.92	0.01	5.1544	-12.7063	0.0181	-0.1949	-0.1057	0.5068	0.4029	0.1048	-2.3681	
29	9.73	-0.01	3.6622	-11.3566	-0.0128	0.0816	-0.0850	0.5678	0.2430	0.3247	-3.1811	
30	0.00	-0.01	0.0446	-0.0952	-0.0484	0.2093	-0.0621	0.4216	0.1453	0.2763	-2.1248	

TEST PART NAME RX10-6											
1 11A 1.10 2.3 0.0 04W0F34 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	MFTA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	XCP
1	0.00	-0.01	0.0146	0.0003	-0.0731	0.2959	-0.0595	0.6367	0.2036	0.4331	0.0201
2	1.95	-0.01	0.6612	-1.9547	-0.0681	0.2640	-0.0594	0.6373	0.2013	0.4360	-2.9563
3	1.95	-0.01	0.6625	-1.9551	-0.0631	0.2646	-0.0566	0.6372	0.2104	0.4269	-2.9513
4	3.90	-0.01	1.3524	-4.0474	-0.0619	0.2673	-0.0640	0.6439	0.2035	0.4404	-2.9920
5	5.84	-0.02	2.0849	-6.3342	-0.0520	0.2514	-0.0712	0.6739	0.2026	0.4713	-3.0405
6	5.84	-0.01	2.0622	-6.3244	-0.0484	0.2330	-0.0745	0.6671	0.2132	0.4540	-3.0400
7	7.79	-0.01	2.8207	-8.6225	-0.0418	0.2038	-0.0807	0.7149	0.2158	0.4891	-3.0569
8	9.72	-0.01	3.4365	-10.7405	-0.0325	0.1644	-0.0868	0.7577	0.2112	0.5464	-3.0512
9	11.75	-0.01	3.8385	-11.8673	-0.0215	0.1344	-0.0902	0.7176	0.2213	0.4963	-2.8780
10	13.81	-0.01	4.1227	-11.1254	-0.0314	0.1478	-0.0803	0.7046	0.2339	0.4706	-2.6986
11	15.86	-0.01	4.4610	-11.3416	-0.0397	0.1443	-0.0628	0.7097	0.2404	0.4693	-2.5424
12	16.88	-0.01	4.6366	-11.6247	-0.0443	0.1394	-0.0491	0.7239	0.2408	0.4831	-2.4640
13	17.91	-0.01	4.8229	-11.5145	-0.0406	0.1394	-0.0482	0.7672	0.2496	0.5176	-2.3875
14	19.94	-0.01	5.0273	-11.6012	-0.0416	0.1394	-0.0488	0.8218	0.2624	0.5593	-2.3076
15	19.99	-0.01	5.2702	-11.7045	-0.0342	0.1399	-0.0495	0.8824	0.2747	0.6077	-2.2209
16	21.04	-0.01	5.5406	-11.8384	-0.0309	0.1291	-0.0444	0.8393	0.2850	0.5543	-2.1368
17	22.04	-0.01	5.8348	-11.9763	-0.0252	0.1360	-0.0448	0.8824	0.2930	0.3894	-2.0526
18	23.10	-0.01	6.1617	-12.1210	-0.0142	0.1244	-0.0513	0.6784	0.2936	0.3848	-1.9671
19	24.16	-0.01	6.4777	-12.2947	0.0152	0.0773	-0.0613	0.6100	0.3220	0.2881	-1.8980
20	25.14	-0.02	6.8025	-12.4647	0.0192	0.0724	-0.0593	0.6207	0.3324	0.2883	-1.8324
21	26.24	-0.02	7.1787	-12.6582	0.0579	0.0429	-0.0543	0.6359	0.3370	0.2989	-1.7633
22	27.33	-0.02	7.5780	-12.8352	0.0864	-0.0102	-0.0382	0.6399	0.3419	0.2980	-1.6937
23	28.37	-0.01	7.9805	-12.9892	0.0837	-0.0473	-0.0425	0.6303	0.3492	0.2810	-1.6276
24	29.46	-0.01	8.3675	-13.1246	0.0862	-0.0434	-0.0087	0.5976	0.3566	0.2410	-1.5685
25	30.49	-0.01	8.6725	-13.2486	0.0783	-0.0065	-0.0207	0.6105	0.3573	0.2432	-1.5277
26	20.70	-0.01	5.2567	-11.4606	-0.0278	0.1024	-0.0505	0.3984	0.3422	0.0562	-2.1840
27	9.74	-0.01	3.4739	-10.4584	-0.0354	0.1834	-0.0814	0.7296	0.2922	0.4374	-3.0106
28	0.00	-0.01	0.0334	-0.0621	-0.0768	0.3077	-0.0564	0.6432	0.2150	0.4282	-1.8568

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 119 1.20 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 84W0F34 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	RFTA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	0.01	-0.01	0.0050	0.0767	-0.0352	0.1467	-0.0540	0.6430	0.2177	0.4253	15.2227
2	1.95	-0.01	0.6051	-1.8525	-0.0217	0.0965	-0.0459	0.6428	0.2060	0.4368	-3.0617
3	1.95	-0.01	0.6779	-1.9773	-0.0210	0.0927	-0.0475	0.6389	0.2072	0.4317	-2.9167
4	3.88	-0.01	1.3912	-4.1704	-0.0137	0.0791	-0.0562	0.6471	0.2033	0.4439	-2.9977
5	5.84	-0.01	2.0476	-6.2563	-0.0067	0.0684	-0.0648	0.6797	0.2024	0.4773	-3.0554
6	7.79	-0.01	2.7617	-8.3423	-0.0005	0.0490	-0.0736	0.7293	0.2023	0.5270	-3.0207
7	9.74	-0.01	3.3354	-10.0779	0.0060	0.0254	-0.0798	0.7728	0.2049	0.5679	-3.0211
8	11.73	-0.01	3.7477	-10.5613	0.0093	0.0265	-0.0831	0.7470	0.2092	0.5378	-2.8181
9	13.83	-0.01	4.0608	-10.7021	0.0112	0.0203	-0.0825	0.7152	0.2164	0.4948	-2.6355
10	15.88	-0.01	4.4021	-10.8994	0.0047	0.0182	-0.0711	0.7281	0.2236	0.5046	-2.4768
11	16.91	-0.01	4.6375	-11.0075	0.0030	0.0134	-0.0621	0.6819	0.2291	0.4528	-2.3736
12	17.95	-0.01	4.8789	-11.1372	-0.0007	0.0145	-0.0573	0.7050	0.2340	0.4709	-2.2827
13	18.98	-0.01	5.1682	-11.2982	0.0039	0.0108	-0.0514	0.7604	0.2403	0.5201	-2.1861
14	19.00	-0.01	5.1319	-11.1167	0.0013	0.0147	-0.0547	0.7211	0.2795	0.4416	-2.1666
15	20.06	-0.01	5.4426	-11.2654	0.0041	0.0044	-0.0515	0.7482	0.2869	0.4613	-2.0735
16	21.10	0.00	5.7389	-11.3936	0.0170	-0.0326	-0.0305	0.6982	0.2900	0.4083	-1.9853
17	22.15	-0.01	6.0644	-11.5270	0.0064	0.0316	-0.0444	0.6800	0.2906	0.3893	-1.8999
18	23.20	-0.01	6.3434	-11.6990	0.0047	0.0454	-0.0560	0.6497	0.2937	0.3561	-1.8299
19	24.26	-0.01	6.7259	-11.8551	0.0385	-0.0231	-0.0696	0.6573	0.2964	0.3609	-1.7626
20	25.32	-0.01	7.0789	-12.0241	0.0557	-0.0609	-0.0816	0.6419	0.3006	0.3413	-1.6986
21	26.38	-0.02	7.4468	-12.2053	0.0634	-0.0512	-0.0865	0.6624	0.3076	0.3549	-1.6390
22	27.44	-0.02	7.6360	-12.4180	0.1004	-0.1020	-0.0770	0.6680	0.3155	0.3524	-1.5847
23	28.50	-0.02	8.2108	-12.5913	0.1260	-0.1811	-0.0744	0.6626	0.3171	0.3455	-1.5335
24	29.55	-0.02	8.5751	-12.7741	0.1379	-0.1834	-0.0657	0.6552	0.3256	0.3296	-1.4997
25	30.60	-0.01	8.9400	-12.9638	0.1321	-0.1472	-0.0534	0.6440	0.3362	0.3079	-1.4501
26	20.06	-0.01	5.4264	-11.1598	-0.0173	0.0985	-0.0440	0.5216	0.3197	0.2018	-2.0566
27	9.75	-0.01	3.3804	-10.0587	0.0083	0.0299	-0.0730	0.7359	0.2283	0.5076	-2.9752
28	0.01	-0.01	0.0308	-0.0006	-0.0361	0.1616	-0.0540	0.6340	0.2202	0.4138	-0.0256
29	0.01	-0.01	0.0131	0.0520	-0.0315	0.1452	-0.0515	0.6378	0.2061	0.4317	3.9782

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PMT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MALN RX10-6			PM1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION					
1	120	1.30	2.3	0.0	M4W0F34	0.0	0	0	0	0	UNKNOWN				
POINT	ALPHA	META	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP				
1	0.02	-0.01	-0.0409	0.2809	-0.0424	0.1797	-0.0602	0.6080	0.2055	0.4025	-6.8671				
2	1.97	-0.01	0.5844	-1.6192	-0.0335	0.1458	-0.0584	0.6060	0.2077	0.3983	-2.7518				
3	3.91	-0.01	1.2378	-3.5751	-0.0314	0.1457	-0.0680	0.6109	0.2075	0.4034	-2.8882				
4	5.86	-0.01	1.8919	-5.5608	-0.0247	0.1307	-0.0723	0.6397	0.2040	0.4357	-2.9393				
5	7.82	-0.01	2.5347	-7.4359	-0.0063	0.0819	-0.0744	0.6676	0.2030	0.4645	-2.9336				
6	9.79	-0.01	3.1922	-9.2331	-0.0024	0.0652	-0.0754	0.7111	0.2050	0.5061	-2.8924				
7	11.74	-0.01	3.7029	-10.2936	0.0124	0.0297	-0.0823	0.7196	0.2088	0.5108	-2.7799				
8	13.84	-0.01	4.0453	-10.4841	0.0153	0.0047	-0.0836	0.7003	0.2158	0.4845	-2.5917				
9	15.91	-0.01	4.4288	-10.5897	0.0267	-0.0084	-0.0774	0.6622	0.2397	0.4225	-2.3911				
10	16.96	-0.01	4.6815	-10.7543	0.0147	0.0121	-0.0701	0.6618	0.2540	0.4079	-2.2972				
11	17.98	-0.01	4.9817	-10.9413	0.0172	-0.0047	-0.0673	0.6938	0.2554	0.4385	-2.1963				
12	19.04	-0.01	5.2875	-11.0701	0.0214	-0.0058	-0.0680	0.7243	0.2600	0.4643	-2.0936				
13	20.08	-0.01	5.5716	-11.1343	0.0460	-0.0774	-0.0739	0.6504	0.2465	0.3839	-1.9984				
14	21.13	-0.01	5.8843	-11.2644	0.0385	-0.0449	-0.0652	0.6408	0.2705	0.3704	-1.9143				
15	22.19	-0.01	6.2167	-11.4356	0.0443	-0.0342	-0.0686	0.5993	0.2730	0.3263	-1.8395				
16	23.25	-0.01	6.5553	-11.6376	0.0435	-0.0557	-0.0847	0.6161	0.2691	0.3469	-1.7753				
17	24.29	-0.01	6.9041	-11.8519	0.0594	-0.1062	-0.0865	0.6444	0.2697	0.3747	-1.7164				
18	25.33	-0.01	7.2526	-12.0573	0.0329	-0.0337	-0.0804	0.6250	0.2719	0.3530	-1.6625				
19	26.41	-0.01	7.6238	-12.1734	0.0844	-0.1558	-0.0857	0.6319	0.2800	0.3520	-1.5968				
20	27.46	-0.01	7.9646	-12.2226	0.0321	-0.0603	-0.0605	0.6252	0.2953	0.3299	-1.5346				
21	28.55	-0.01	8.3617	-12.4444	0.0740	-0.0717	-0.0407	0.6273	0.3025	0.3248	-1.4883				
22	29.60	-0.01	8.7191	-12.6350	0.0920	-0.1131	-0.0263	0.6347	0.3126	0.3221	-1.4491				
23	30.64	-0.01	9.0803	-12.8318	0.0410	-0.0931	-0.0462	0.6321	0.3210	0.3111	-1.4132				
24	20.11	-0.01	5.5476	-10.9321	0.0313	-0.0464	-0.0688	0.5801	0.3192	0.2609	-1.9705				
25	9.78	-0.01	3.1846	-9.2679	0.0027	0.0553	-0.0724	0.6889	0.2708	0.4180	-2.9064				
26	0.02	-0.01	-0.0248	0.2294	-0.0422	0.1845	-0.0587	0.6019	0.2328	0.3691	-9.2526				

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6												
1 125 U.BU 2.3												
PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
0.0 64W0F33 0.0 0 0 0 0 UNKNOWN												
POINT	ALPHA	BETA	CN	CLM	CY	CLW	CLL	CA	CAB	CAF	ACP	
1	-0.00	-0.00	0.0332	-0.0914	-0.0181	0.0542	-0.0731	0.3030	0.0934	0.2105	-2.7476	
2	1.97	0.00	0.6151	-1.7628	-0.0071	0.0041	-0.0763	0.3158	0.0914	0.2743	-2.8658	
3	3.94	0.00	1.2314	-3.5631	0.0032	-0.0304	-0.0833	0.3220	0.0959	0.2261	-2.8926	
4	5.90	0.00	1.8763	-5.5014	0.0091	-0.0530	-0.0970	0.3356	0.0990	0.2365	-2.9289	
5	7.86	0.00	2.5439	-7.5736	-0.0034	-0.0297	-0.0992	0.3828	0.0986	0.2842	-2.9772	
6	9.84	-0.00	2.8665	-8.3710	-0.0565	0.1705	-0.0337	0.4639	0.1161	0.3478	-2.9203	
7	11.85	-0.00	3.1277	-8.8372	-0.0114	0.0072	-0.0811	0.5266	0.1461	0.3805	-2.8254	
8	13.84	0.00	3.5640	-9.8303	-0.0090	-0.0301	-0.0743	0.5715	0.1409	0.3906	-2.7582	
9	15.85	0.00	3.9647	-10.6609	-0.0103	-0.0350	-0.0631	0.6048	0.2099	0.3949	-2.6899	
10	16.88	0.00	4.1627	-10.9606	-0.0320	0.0058	-0.0486	0.6158	0.2464	0.3694	-2.6331	
11	17.88	-0.00	4.3400	-11.1879	-0.0467	0.1102	-0.0222	0.6455	0.2551	0.3903	-2.5779	
12	18.90	-0.01	4.3222	-10.6664	-0.0888	0.2463	-0.0108	0.6949	0.2994	0.4055	-2.4678	
13	19.95	-0.00	4.4660	-10.8269	-0.0472	0.1019	-0.0150	0.7342	0.3239	0.4104	-2.3795	
14	19.94	-0.00	4.4642	-10.6467	-0.0812	0.2049	-0.0085	0.7249	0.3847	0.3402	-2.3848	
15	20.94	-0.00	4.6787	-10.9432	-0.0432	0.1403	-0.0220	0.7551	0.3922	0.3629	-2.3389	
16	21.96	-0.01	4.9245	-11.3715	-0.0329	0.1407	-0.0477	0.7736	0.4115	0.3621	-2.3092	
17	22.97	-0.01	5.1453	-11.7236	-0.0360	0.1910	-0.0617	0.7797	0.4301	0.3496	-2.2785	
18	23.97	-0.02	5.4571	-12.2489	-0.0729	0.2671	-0.0899	0.8064	0.4450	0.3614	-2.2446	
19	24.99	-0.03	5.6823	-12.5991	-0.0314	0.3529	-0.1224	0.8002	0.4697	0.3304	-2.2173	
20	25.99	-0.04	5.9638	-13.0260	-0.0160	0.3851	-0.1538	0.8045	0.4697	0.3347	-2.1842	
21	27.02	-0.04	6.2212	-13.4211	0.0100	0.3850	-0.1739	0.8020	0.5077	0.2944	-2.1573	
22	28.02	-0.06	6.5323	-13.9527	0.1265	0.3589	-0.2741	0.7829	0.5186	0.2643	-2.1368	
23	29.04	-0.07	6.7812	-14.2928	0.2060	0.2049	-0.2739	0.7762	0.5227	0.2535	-2.1077	
24	30.06	-0.07	7.0497	-14.5893	0.3203	0.0242	-0.2869	0.7591	0.5278	0.2314	-2.0695	
25	19.94	-0.00	4.4691	-10.6675	-0.0700	0.1922	-0.0068	0.7031	0.4783	0.2747	-2.3825	
26	19.93	-0.00	4.4601	-10.6706	-0.0624	0.1664	-0.0105	0.7104	0.4090	0.3014	-2.3925	
27	9.84	-0.01	2.9004	-8.5562	-0.0762	0.2935	-0.0284	0.4040	0.2252	0.1787	-2.9508	
28	-0.01	-0.01	0.0562	-0.2000	-0.0311	0.1332	-0.0702	0.2826	0.1156	0.1671	-3.5556	

TEST	PART	MACM	RK10-6	PM1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	126	0.85	2.3	0.0	64=0F33	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAP	KCP	
1	-0.00	-0.00	0.0470	-0.1612	-0.0230	0.0935	-0.0682	0.2937	0.0842	0.2090	-3.4272	
2	1.96	-0.00	0.6422	-1.8773	-0.0147	0.0554	-0.0743	0.2994	0.0948	0.2036	-2.9230	
3	3.94	-0.00	1.2440	-3.7536	-0.0067	0.0269	-0.0794	0.3019	0.0993	0.2026	-2.9234	
4	3.93	-0.00	1.2497	-3.7393	-0.0042	0.0329	-0.0789	0.2994	0.0946	0.2048	-2.9450	
5	5.90	-0.00	1.9831	-5.4639	-0.0017	0.0147	-0.0935	0.3050	0.0892	0.2158	-2.9569	
6	5.89	-0.00	2.0021	-5.4668	-0.0001	0.0097	-0.0904	0.3040	0.0822	0.2218	-2.9803	
7	7.84	-0.00	2.7243	-8.1847	0.0042	-0.0314	-0.1035	0.3256	0.1016	0.2237	-3.0043	
8	9.84	-0.01	2.8490	-8.3554	-0.0417	0.3447	-0.0041	0.4421	0.1498	0.2923	-2.9329	
9	11.86	-0.01	3.1479	-8.9175	-0.0251	0.0847	-0.0763	0.5115	0.1706	0.3409	-2.8328	
10	13.83	-0.00	3.6410	-10.1394	-0.0165	0.0315	-0.0806	0.5614	0.1966	0.3648	-2.7848	
11	15.83	-0.00	4.1245	-11.3007	-0.0164	0.0107	-0.0544	0.6102	0.2161	0.3942	-2.7366	
12	16.84	-0.00	4.3477	-11.6735	-0.0104	0.0041	-0.0370	0.6220	0.2429	0.3791	-2.6850	
13	17.86	0.00	4.4444	-11.7766	-0.0356	0.0345	-0.0196	0.6420	0.2615	0.3804	-2.6379	
14	18.90	-0.01	4.5228	-11.4115	-0.0469	0.2814	0.0060	0.7032	0.2806	0.4225	-2.5231	
15	19.92	-0.00	4.6514	-11.2675	-0.0484	0.1146	-0.0084	0.7347	0.3229	0.4118	-2.4267	
16	19.91	-0.01	4.6511	-11.3744	-0.0313	0.1364	-0.0060	0.7363	0.3467	0.3895	-2.4458	
17	20.93	-0.01	4.8629	-11.5918	-0.0413	0.1463	-0.0099	0.7611	0.3723	0.3888	-2.3837	
18	21.93	-0.01	5.0887	-11.9222	-0.0373	0.1589	-0.0190	0.7704	0.4034	0.3670	-2.3429	
19	22.94	-0.02	5.3051	-12.2770	-0.0394	0.2524	-0.0673	0.7824	0.4193	0.3631	-2.3142	
20	23.95	-0.02	5.6128	-12.8207	-0.0256	0.2518	-0.0746	0.7994	0.4375	0.3620	-2.2842	
21	24.96	-0.03	5.8654	-13.1813	-0.0161	0.3709	-0.1111	0.8018	0.4508	0.3510	-2.2471	
22	26.01	-0.04	6.1328	-13.5534	0.0044	0.3755	-0.1545	0.8020	0.4710	0.3310	-2.2181	
23	27.02	-0.05	6.3761	-13.7850	0.0766	0.3472	-0.2122	0.7990	0.4986	0.3003	-2.1620	
24	28.04	-0.06	6.5966	-13.8756	0.1911	0.1910	-0.2540	0.7820	0.5124	0.2696	-2.1034	
25	29.06	-0.06	6.8107	-13.9595	0.2512	0.0329	-0.2317	0.7640	0.5180	0.2460	-2.0496	
26	30.11	-0.06	7.0478	-14.0461	0.3564	-0.1977	-0.2236	0.7390	0.5321	0.2069	-1.9986	
27	19.91	-0.01	4.6545	-11.3291	-0.0564	0.1862	-0.0092	0.7302	0.4375	0.2927	-2.4314	
28	9.84	-0.01	2.8531	-8.3773	-0.0934	0.3729	-0.0037	0.4261	0.2144	0.2117	-2.9362	
29	-0.00	-0.00	0.0507	-0.1770	-0.0259	0.1085	-0.0647	0.2905	0.1012	0.1893	-3.4899	
30	-0.00	-0.00	0.0512	-0.1745	-0.0238	0.1040	-0.0653	0.2902	0.0888	0.2014	-3.4065	



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

TEST PART	MACH	RA10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION		
1	127	0.92	2.3	0.0	04W0F33	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP	
1	-0.00	0.00	0.0335	-0.1003	0.0039	-0.0201	-0.0626	0.3699	0.0985	0.2714	-2.9922	
2	1.97	0.00	0.5739	-1.5443	0.0037	-0.0227	-0.0720	0.3680	0.0971	0.2709	-2.6909	
3	7.93	-0.00	1.2602	-3.6424	0.0037	-0.0005	-0.0755	0.3450	0.0955	0.2495	-2.8904	
4	5.88	-0.01	1.9517	-5.7741	-0.0232	0.1022	-0.0947	0.3676	0.0799	0.2877	-2.9505	
5	7.85	-0.01	2.5941	-7.7092	-0.0406	0.1639	0.0113	0.4317	0.1007	0.3310	-2.9718	
6	9.85	-0.01	2.8681	-8.2349	-0.1734	0.6435	0.2627	0.5196	0.1354	0.3841	-2.8712	
7	11.81	-0.01	3.5163	-10.2454	-0.2165	0.7951	0.3227	0.5832	0.1584	0.4248	-2.9137	
8	13.81	-0.01	3.8024	-10.7651	-0.0149	0.0443	-0.0972	0.6218	0.2235	0.3983	-2.8364	
9	15.79	-0.00	4.3408	-12.2694	-0.0097	-0.0145	-0.0613	0.6680	0.2617	0.4063	-2.8007	
10	16.81	0.00	4.5557	-12.5187	-0.0110	-0.0287	-0.0464	0.6812	0.2652	0.4161	-2.7478	
11	17.42	0.00	4.7227	-12.6335	-0.0157	-0.0251	-0.0301	0.6865	0.2903	0.3961	-2.6751	
12	18.84	0.00	4.8925	-12.7652	-0.0263	0.0123	-0.0186	0.6970	0.3019	0.3950	-2.6091	
13	19.86	-0.00	5.0327	-12.7667	-0.0464	0.1430	0.0071	0.7144	0.3028	0.4115	-2.5367	
14	20.89	-0.01	5.1691	-12.7487	-0.1164	0.4324	0.0635	0.7776	0.3141	0.4634	-2.4663	
15	21.41	-0.01	5.3448	-12.8256	-0.0156	0.0896	-0.0476	0.8205	0.3466	0.4740	-2.3996	
16	22.94	-0.02	5.5317	-12.8831	0.0041	0.1337	-0.0655	0.8249	0.4613	0.3636	-2.3289	
17	23.97	-0.02	5.7475	-13.0411	-0.0131	0.2147	-0.0722	0.8270	0.4874	0.3396	-2.2690	
18	25.00	-0.02	5.9633	-13.1307	0.0106	0.1784	-0.0779	0.8208	0.4894	0.3314	-2.2019	
19	25.03	-0.03	6.2179	-13.3359	0.0699	0.1931	-0.1082	0.8121	0.5093	0.3028	-2.1448	
20	27.05	-0.03	6.4757	-13.4525	0.1259	0.0659	-0.1229	0.7946	0.5163	0.2783	-2.0774	
21	28.11	-0.04	6.7961	-13.5580	0.2597	-0.1719	-0.1078	0.7700	0.5111	0.2589	-1.9950	
22	29.15	-0.02	7.1666	-13.7060	0.2184	-0.2287	-0.0533	0.7565	0.5203	0.2362	-1.9125	
23	30.20	-0.01	7.5047	-13.9221	0.1522	-0.1566	-0.0159	0.7475	0.5325	0.2150	-1.8539	
24	19.87	-0.00	4.9943	-12.5402	-0.0499	0.1466	-0.0030	0.6970	0.4184	0.2785	-2.5209	
25	9.85	-0.02	2.8750	-8.2788	-0.1853	0.6977	0.2661	0.4958	0.2573	0.2386	-2.8794	
26	-0.00	0.00	0.0472	-0.1280	-0.0028	0.0015	-0.0603	0.3796	0.1080	0.2716	-2.7150	
27	-0.00	0.00	0.0429	-0.1302	0.0029	-0.0088	-0.0573	0.3653	0.1073	0.2580	-3.0354	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)    PROPULSION WIND TUNNEL FACILITY(PWT)    AERODYNAMIC WIND TUNNEL(4T)  
 PAGE 1 OF 1  
 SHEET 1 OF 1

TEST PART		MACH		PHI		CONF		L		DEL1	DEL2	DEL3	DEL4	TRANSITION
1		120 U.94 2.3		0.0		M440F33		0.0		0	0	0	0	UNKNOWN
POINT	ALPHA	HFTA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP			
1	-0.00	-0.00	0.0414	-0.1064	-0.0072	0.0235	-0.0673	0.4297	0.0982	0.3315	-2.5751			
2	1.97	0.00	0.5589	-1.5064	0.0103	-0.0436	-0.0788	0.4125	0.1110	0.3014	-2.6952			
3	3.92	-0.00	1.2550	-3.5738	-0.0029	0.0132	-0.0856	0.4042	0.1034	0.3008	-2.8477			
4	5.87	-0.01	1.9633	-5.6395	-0.0177	0.1024	-0.1014	0.4150	0.1073	0.3077	-2.9743			
5	7.84	-0.01	2.6209	-7.9012	-0.0501	0.2141	-0.0077	0.4641	0.1133	0.3508	-3.0147			
6	9.83	-0.01	2.9618	-8.7093	-0.1545	0.6142	0.2927	0.5531	0.1374	0.4157	-2.9405			
7	11.40	-0.02	3.5569	-10.3144	-0.2024	0.7648	0.3267	0.6185	0.1623	0.4562	-2.9000			
8	13.81	-0.01	3.6276	-10.8514	-0.0199	0.0602	-0.0966	0.6333	0.1961	0.4372	-2.8350			
9	15.79	-0.00	4.7875	-12.2500	-0.0123	-0.0133	-0.0758	0.6767	0.2462	0.4305	-2.7920			
10	16.80	0.00	4.5503	-12.3804	-0.0089	-0.0267	-0.0488	0.6767	0.2695	0.4072	-2.7208			
11	17.83	0.00	4.4992	-12.4275	-0.0265	0.0045	-0.0344	0.6832	0.2799	0.4032	-2.6446			
12	18.95	0.00	4.8708	-12.5675	-0.0162	-0.0053	-0.0284	0.6876	0.2998	0.3878	-2.5802			
13	19.87	0.00	5.0347	-12.6324	-0.0179	0.0107	-0.0238	0.6969	0.3099	0.3870	-2.5091			
14	20.84	-0.00	5.1934	-12.6444	-0.0413	0.2221	0.0036	0.7310	0.3190	0.4120	-2.4443			
15	21.91	-0.02	5.3574	-12.6632	-0.1317	0.5740	0.0678	0.7800	0.3266	0.4534	-2.3637			
16	22.95	-0.01	5.5570	-12.7626	-0.0260	0.1971	-0.0429	0.8154	0.3542	0.4612	-2.2967			
17	23.94	-0.02	5.7835	-12.9194	-0.0007	0.1594	-0.0570	0.8254	0.3977	0.4277	-2.2338			
18	25.00	-0.02	6.0242	-13.0604	0.0150	0.1493	-0.0446	0.8104	0.4324	0.3780	-2.1663			
19	26.05	-0.02	6.2759	-13.1816	0.0683	0.1033	-0.0567	0.8086	0.4436	0.3450	-2.1003			
20	27.10	-0.02	6.5568	-13.2473	0.1404	-0.0535	-0.0648	0.7817	0.4767	0.3050	-2.0274			
21	28.13	-0.03	6.9003	-13.4334	0.2454	-0.2225	-0.0681	0.7788	0.4899	0.2888	-1.9468			
22	29.16	-0.01	7.3710	-13.6420	0.1431	-0.1816	-0.0144	0.7699	0.5054	0.2644	-1.8508			
23	30.24	-0.00	7.7371	-13.7461	0.0903	-0.1144	0.0061	0.7057	0.5444	0.1612	-1.7831			
24	19.88	-0.00	4.9830	-12.3631	-0.0293	0.0811	-0.0200	0.6719	0.4614	0.2105	-2.4811			
25	9.82	-0.01	2.9909	-8.8215	-0.1527	0.6031	0.2955	0.5359	0.3065	0.2294	-2.9495			
26	6.06	-0.01	2.1950	-6.6566	-0.0283	0.1412	-0.1058	0.4419	0.1965	0.2455	-3.0326			
27	-0.00	-0.00	0.0485	-0.1291	-0.0082	0.0289	-0.0609	0.4158	0.1144	0.3014	-2.6635			

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART WACH RK10-6											
1 129 0.96 2.3			PHI CONF L			DEL1 DEL2 DEL3			DEL4 TRANSITION		
			0.0 0400F33 0.0			0 0 0			0 0 UNKNOWN		
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	Ca	CAR	CAF	KCP
1	-0.00	-0.00	0.0009	-0.1205	-0.0102	0.0011	-0.0711	0.4617	0.1110	0.3508	-2.9548
2	1.47	0.00	0.5654	-1.6521	0.0042	-0.0216	-0.0792	0.4614	0.1157	0.3457	-2.7747
3	3.92	-0.00	1.7866	-3.7576	0.0046	-0.0047	-0.0856	0.4764	0.1158	0.3610	-2.9201
4	5.87	-0.01	2.0114	-6.0641	-0.0141	0.0794	-0.1080	0.4721	0.1267	0.3454	-3.0248
5	5.86	-0.01	2.0330	-6.1614	-0.0146	0.0793	-0.1087	0.5051	0.1183	0.3868	-3.0310
6	7.80	-0.01	2.7745	-6.5747	-0.0179	0.0925	-0.1059	0.5295	0.1436	0.3859	-3.0905
7	9.77	-0.01	3.3696	-10.1364	-0.0338	0.1414	-0.0215	0.5602	0.1679	0.3923	-3.0263
8	11.74	-0.01	3.9432	-11.8332	-0.0096	0.0406	-0.0454	0.6194	0.1642	0.4556	-3.0009
9	13.77	-0.01	4.1346	-11.9341	-0.1799	0.6460	0.2980	0.6919	0.1462	0.5057	-2.8836
10	15.80	-0.00	4.3702	-12.0837	-0.0116	0.0154	-0.0826	0.6797	0.2717	0.4088	-2.7650
11	16.82	-0.00	4.5332	-12.2089	-0.0127	-0.0078	-0.0561	0.6811	0.2945	0.3866	-2.6932
12	16.82	-0.00	4.5313	-12.1652	-0.0180	0.0071	-0.0672	0.6831	0.2892	0.3939	-2.6847
13	17.43	0.00	4.6469	-12.2395	-0.0276	0.0131	-0.0435	0.6865	0.2958	0.3907	-2.6114
14	18.87	-0.00	4.8557	-12.3467	-0.0115	0.0182	-0.0342	0.6946	0.3051	0.3935	-2.5375
15	19.90	-0.00	5.0426	-12.4406	-0.0263	0.0665	-0.0231	0.7073	0.3115	0.3958	-2.4672
16	20.91	-0.00	5.2239	-12.5132	-0.0158	0.0608	-0.0188	0.7126	0.3229	0.3897	-2.3954
17	21.94	-0.02	5.4356	-12.5743	-0.0620	0.3310	0.0056	0.7538	0.3298	0.4240	-2.3133
18	22.97	-0.02	5.6475	-12.6424	-0.0447	0.5126	0.0463	0.7949	0.3583	0.4366	-2.2378
19	24.91	-0.02	5.8451	-12.7561	-0.0517	0.3400	0.0128	0.8040	0.4443	0.3598	-2.1638
20	25.85	-0.02	6.1548	-12.8814	0.0099	0.2354	-0.0113	0.8150	0.4640	0.3510	-2.0929
21	26.08	-0.02	6.4447	-13.0622	0.0610	0.1530	-0.0140	0.8086	0.4811	0.3275	-2.0268
22	27.13	-0.02	6.7620	-13.2470	0.1022	0.0086	-0.0208	0.7870	0.4960	0.2910	-1.9590
23	27.13	-0.02	6.8177	-13.1698	0.1034	0.0255	0.0032	0.7976	0.5004	0.2972	-1.9317
24	28.16	-0.02	7.1182	-13.3653	0.1602	-0.0499	0.0018	0.7859	0.5162	0.2697	-1.8776
25	28.17	-0.02	7.1857	-13.3492	0.1767	-0.1287	0.0155	0.7786	0.5152	0.2634	-1.8577
26	29.24	-0.00	7.4683	-13.6325	0.0607	-0.0755	0.0189	0.7640	0.5225	0.2415	-1.7778
27	30.24	-0.00	8.0132	-13.7802	0.0626	-0.0574	0.0355	0.7596	0.5330	0.2266	-1.7197
28	19.89	-0.00	4.9787	-12.2069	-0.0281	0.0794	-0.0231	0.6824	0.4741	0.2083	-2.4518
29	9.76	-0.01	3.4137	-10.4241	-0.0334	0.1523	-0.0593	0.5619	0.2994	0.2626	-3.0536
30	-0.00	-0.00	0.0543	-0.1676	-0.0165	0.0692	-0.0676	0.4637	0.1598	0.3038	-3.0857

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 131 0.98 2.3 0.0 04=0F33 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-0.00	-0.00	0.0394	-0.1175	-0.0239	0.0980	-0.0663	0.5075	0.1121	0.3954	-2.9816
2	1.96	-0.00	0.6222	-1.7941	-0.0047	0.0296	-0.0727	0.5125	0.1220	0.3905	-2.8833
3	1.96	-0.00	0.6247	-1.7989	-0.0080	0.0371	-0.0708	0.5183	0.1205	0.3978	-2.8795
4	3.93	-0.00	1.3259	-3.8569	0.0043	0.0011	-0.0777	0.5159	0.1319	0.3840	-2.9089
5	5.86	-0.01	2.0243	-4.1863	-0.0142	0.0681	-0.1012	0.5468	0.1410	0.4059	-3.0560
6	7.78	-0.00	2.7828	-4.8742	-0.0139	0.0490	-0.1078	0.5890	0.1520	0.4370	-3.1171
7	7.79	-0.01	2.8018	-4.7573	-0.0121	0.0666	-0.1102	0.5966	0.1825	0.4140	-3.1256
8	9.75	-0.01	3.4527	-10.6612	-0.0126	0.0591	-0.0970	0.6273	0.1980	0.4293	-3.0878
9	11.73	-0.01	3.9169	-11.6941	-0.0175	0.0649	-0.0807	0.6814	0.1921	0.4893	-2.9856
10	13.78	-0.00	4.1207	-11.7508	-0.1418	0.5145	0.2772	0.7096	0.2233	0.4862	-2.8517
11	15.81	-0.00	4.3551	-11.8768	-0.0106	0.0259	-0.0811	0.7033	0.2562	0.4471	-2.7271
12	16.82	-0.00	4.5056	-11.9926	-0.0203	0.0319	-0.0706	0.6855	0.2987	0.3968	-2.6617
13	17.85	-0.00	4.6827	-12.0372	-0.0173	0.0220	-0.0583	0.6994	0.2829	0.4165	-2.5706
14	18.87	-0.00	4.8564	-12.2177	-0.0349	0.0565	-0.0353	0.6834	0.3192	0.3642	-2.5158
15	18.88	-0.00	4.8570	-12.0655	-0.0314	0.0726	-0.0566	0.6858	0.3098	0.3759	-2.4842
16	18.88	-0.00	4.8626	-12.1213	-0.0188	0.0447	-0.0445	0.6896	0.3256	0.3640	-2.4927
17	19.90	-0.01	5.0501	-12.7774	-0.0240	0.0767	-0.0434	0.6920	0.3432	0.3488	-2.4311
18	19.91	-0.01	5.0716	-12.7091	-0.0049	0.0417	-0.0606	0.6882	0.3296	0.3587	-2.4074
19	20.93	-0.01	5.2725	-12.3478	-0.0107	0.0824	-0.0390	0.7010	0.3476	0.3534	-2.3419
20	21.96	-0.01	5.4821	-12.4188	0.0187	0.0906	-0.0407	0.7059	0.3606	0.3453	-2.2653
21	23.00	-0.01	5.7835	-12.5772	-0.0774	0.3917	0.0519	0.7793	0.3629	0.4164	-2.1747
22	24.04	-0.02	6.0519	-12.6512	-0.0681	0.4977	0.1083	0.8069	0.3788	0.4281	-2.0904
23	25.09	-0.02	6.3371	-12.8315	-0.0351	0.3598	0.0770	0.8077	0.4035	0.4042	-2.0248
25	27.17	-0.01	6.9273	-13.1312	0.0855	0.0572	0.0374	0.7920	0.4619	0.3301	-1.8956
26	27.19	-0.01	7.0388	-13.1385	0.0596	0.1348	0.0625	0.8076	0.4836	0.3240	-1.8666
27	28.23	-0.01	7.4158	-13.2892	0.1263	-0.0530	0.0709	0.7952	0.4941	0.3012	-1.7928
28	29.30	-0.01	7.8896	-13.5221	0.0536	0.0174	0.0448	0.7758	0.5056	0.2702	-1.7139
29	30.34	-0.00	8.2527	-13.7294	0.0359	-0.0189	0.0200	0.7643	0.5265	0.2378	-1.6636
30	19.92	-0.01	5.0365	-12.0173	-0.0245	0.1160	-0.0553	0.6137	0.3452	0.2685	-2.3868
31	9.74	-0.01	3.4818	-10.8066	-0.0117	0.0755	-0.0994	0.6332	0.2726	0.3606	-3.1037
32	-0.00	-0.00	0.0436	-0.1197	-0.0248	0.1010	-0.0612	0.5044	0.1152	0.3891	-2.7462

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MALM RA10-6 PH1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 132 1.010 2.3 0.0 84=0F33 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-0.00	-0.01	0.0391	-0.1259	-0.0462	0.1779	-0.0603	0.7248	0.2161	0.5086	-3.2186
2	1.95	-0.01	0.6737	-1.9905	-0.0264	0.1087	-0.0556	0.7213	0.2193	0.5020	-2.9547
3	1.95	-0.01	0.6766	-1.9901	-0.0265	0.1037	-0.0543	0.7223	0.2168	0.5054	-2.9501
4	3.90	-0.01	1.3635	-4.1149	-0.0262	0.1094	-0.0802	0.7277	0.2203	0.5074	-3.0179
5	5.83	-0.01	2.0697	-6.3824	-0.0177	0.0872	-0.0919	0.7477	0.2215	0.5262	-3.0037
6	7.77	-0.01	2.7898	-8.6784	-0.0194	0.0664	-0.0957	0.7797	0.2292	0.5504	-3.1107
7	9.74	-0.01	3.4210	-10.5233	-0.0129	0.0436	-0.0987	0.8101	0.2412	0.5689	-3.0761
8	11.77	-0.01	3.7245	-10.7556	-0.0032	0.0440	-0.0995	0.7936	0.2558	0.5378	-2.8878
9	13.82	-0.01	4.0245	-10.9375	-0.0123	0.0671	-0.0858	0.7972	0.2627	0.5345	-2.7177
10	15.84	-0.01	4.3505	-11.1267	-0.0165	0.0523	-0.0711	0.7923	0.2671	0.5252	-2.5576
11	15.85	-0.01	4.3083	-11.0345	-0.1125	0.4258	0.1506	0.7893	0.2911	0.4982	-2.5612
12	16.88	-0.01	4.4689	-11.1406	-0.1309	0.4721	0.1853	0.7836	0.3025	0.4812	-2.4818
14	18.94	-0.01	4.8630	-11.3064	-0.0332	0.1131	-0.0430	0.7911	0.3320	0.4592	-2.3250
15	19.97	-0.01	5.0944	-11.4326	-0.0258	0.1457	-0.0561	0.7939	0.3413	0.4526	-2.2418
16	21.01	-0.01	5.3923	-11.5903	-0.0171	0.1446	-0.0597	0.8131	0.3537	0.4593	-2.1494
17	22.06	-0.02	5.6853	-11.7249	0.0132	0.0898	-0.0608	0.7991	0.3593	0.4398	-2.0623
18	23.11	-0.01	5.9967	-11.8950	0.0239	0.0635	-0.0517	0.8124	0.3670	0.4454	-1.9836
19	24.14	-0.01	6.3162	-12.0442	0.0311	0.0976	-0.0117	0.8060	0.3669	0.4391	-1.9069
20	25.18	-0.01	6.6537	-12.2016	0.0233	0.1003	0.0104	0.8057	0.3694	0.4363	-1.8338
21	26.25	-0.01	7.0118	-12.4110	0.0442	0.0575	0.0538	0.8221	0.3795	0.4426	-1.7700
22	27.31	-0.00	7.4397	-12.6143	0.0252	0.0727	0.0540	0.8245	0.3815	0.4430	-1.6955
23	28.38	-0.00	7.8408	-12.7982	0.0369	0.0666	0.0744	0.8523	0.3893	0.4630	-1.6323
24	29.43	-0.00	8.1846	-12.9731	-0.0384	0.1710	0.0225	0.7976	0.3994	0.3982	-1.5851
25	30.47	-0.01	8.5249	-13.1458	-0.0628	0.2468	-0.0062	0.7866	0.4140	0.3726	-1.5421
26	19.98	-0.02	5.0666	-11.2458	-0.0418	0.2316	-0.0465	0.6100	0.4030	0.2070	-2.2196
27	9.74	-0.01	3.3731	-10.2977	-0.0125	0.0593	-0.0914	0.8021	0.3265	0.4756	-3.0529
28	9.74	-0.01	3.3783	-10.3571	-0.0077	0.0436	-0.0918	0.7985	0.2824	0.5161	-3.0658
29	-0.01	-0.01	0.0514	-0.1719	-0.0479	0.1939	-0.0543	0.7280	0.2067	0.5213	-3.3450

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART			MACH	RX10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
1			133	1.20 2.3	0.0	0400F33	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	RCP	
1	-0.01	0.00	0.0393	-0.1465	0.0072	-0.0162	-0.0426	0.7057	0.1876	0.5181	-3.7225	
2	-0.01	0.00	0.0354	-0.1374	0.0071	-0.0161	-0.0426	0.7056	0.1969	0.5087	-3.8774	
3	0.00	-0.00	0.0241	-0.0378	-0.0154	0.0647	-0.0476	0.7296	0.2187	0.5109	-1.5661	
4	1.95	0.00	0.6786	-2.0173	-0.0025	-0.0034	-0.0471	0.7339	0.2197	0.5141	-2.9726	
5	3.89	-0.00	1.3476	-4.0974	0.0054	-0.0173	-0.0626	0.7419	0.2154	0.5265	-3.0465	
6	5.83	-0.00	2.0151	-6.1792	0.0029	-0.0709	-0.0738	0.7741	0.2161	0.5581	-3.0664	
7	7.78	-0.00	2.6573	-8.1151	0.0170	-0.0432	-0.0864	0.8068	0.2163	0.5906	-3.0539	
8	9.73	0.00	3.3044	-9.7687	0.0175	-0.0777	-0.0890	0.8485	0.2245	0.6240	-3.0168	
9	11.78	-0.01	3.6335	-10.2961	0.0246	-0.0420	-0.0878	0.8375	0.2347	0.6028	-2.8337	
10	13.83	-0.00	3.9465	-10.4542	0.0173	-0.0361	-0.0829	0.8244	0.2458	0.5786	-2.6490	
11	15.88	-0.00	4.3024	-10.6222	0.0166	-0.0545	-0.0730	0.7895	0.2740	0.5154	-2.4689	
12	16.97	-0.00	4.5263	-10.7378	0.0027	-0.0254	-0.0638	0.7899	0.2926	0.5074	-2.3723	
13	17.94	-0.00	4.7416	-10.8544	0.0151	-0.0315	-0.0493	0.8146	0.2912	0.5234	-2.2982	
14	19.00	-0.00	4.9722	-10.9650	0.0094	-0.0456	-0.0543	0.8315	0.2966	0.5349	-2.2053	
15	20.04	-0.01	5.2742	-11.1246	0.0183	-0.0046	-0.0476	0.8165	0.3099	0.5066	-2.1077	
16	21.08	-0.01	5.5925	-11.2946	0.0561	-0.0762	-0.0586	0.8346	0.3378	0.4968	-2.0196	
17	22.15	-0.01	5.9240	-11.4648	-0.0003	0.0717	-0.0501	0.8286	0.3516	0.4770	-1.9337	
18	23.19	-0.01	6.2413	-11.5656	0.0275	0.0407	-0.0494	0.8637	0.3559	0.5079	-1.8531	
19	24.27	-0.01	6.5868	-11.7704	0.0504	-0.0071	-0.0520	0.8143	0.3615	0.4528	-1.7870	
20	25.34	-0.01	6.9424	-11.9432	0.0706	-0.0361	-0.0447	0.7546	0.3721	0.3825	-1.7203	
21	26.35	-0.01	7.2892	-12.1371	0.0960	-0.0647	-0.0376	0.8392	0.3730	0.4662	-1.6651	
22	27.41	-0.01	7.6777	-12.3242	0.1123	-0.1027	-0.0210	0.9164	0.3748	0.5416	-1.6052	
23	28.47	-0.01	8.0667	-12.5386	0.0884	-0.0772	-0.0314	0.8156	0.3821	0.4335	-1.5544	
24	29.59	-0.02	8.4375	-12.7164	0.0975	-0.0851	-0.0446	0.7646	0.3802	0.3844	-1.5071	
25	30.57	-0.01	8.7761	-12.8915	0.1045	-0.0950	-0.0305	0.8059	0.3828	0.4231	-1.4689	
26	20.35	-0.00	5.2461	-10.9513	0.0053	0.0036	-0.0408	0.7587	0.3559	0.4028	-2.0875	
27	9.78	-0.00	3.2713	-9.8336	0.0211	-0.0463	-0.0816	0.8276	0.2626	0.5649	-3.0060	
28	-0.00	-0.00	0.0243	-0.0714	-0.0201	0.0844	-0.0405	0.7255	0.2286	0.4969	-2.9409	

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH R410-6											
1 134 1.34 2-3											
PM1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 84-0F33 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLW	CLL	CA	CAB	CAF	XCP
1	0.01	-0.00	-0.0191	0.1227	-0.0164	0.0669	-0.0412	0.6622	0.2083	0.4539	-6.4179
2	1.94	-0.00	0.6297	-1.8612	-0.0256	0.0738	-0.0466	0.6724	0.2061	0.4663	-2.9555
3	3.91	-0.00	1.2813	-3.8806	-0.0113	0.0557	-0.0566	0.6854	0.2074	0.4779	-3.0286
4	5.91	-0.00	1.9114	-5.7557	-0.0061	0.0417	-0.0636	0.7222	0.1969	0.5253	-3.0113
5	7.87	-0.00	2.5175	-7.4909	0.0045	0.0110	-0.0776	0.7643	0.2070	0.5573	-2.9755
6	9.78	-0.00	3.1179	-9.1403	0.0092	-0.0155	-0.0837	0.8022	0.2201	0.5821	-2.9316
7	11.78	-0.00	3.5903	-10.1044	0.0202	-0.0460	-0.0801	0.8254	0.2345	0.5908	-2.8897
8	13.89	-0.00	3.9496	-10.2901	0.0168	-0.0390	-0.0675	0.8057	0.2517	0.5540	-2.6054
9	15.90	-0.00	4.3391	-10.4884	0.0113	-0.0306	-0.0591	0.7789	0.2578	0.5210	-2.4173
10	16.95	-0.00	4.5739	-10.6018	0.0072	-0.0046	-0.0555	0.8090	0.2654	0.5435	-2.3179
11	18.01	-0.00	4.8540	-10.7415	0.0097	-0.0071	-0.0495	0.8024	0.2718	0.5306	-2.2129
12	19.04	-0.00	5.1498	-10.8980	0.0068	0.0001	-0.0409	0.7748	0.2780	0.4968	-2.1162
13	20.10	-0.01	5.4457	-11.0192	0.0077	0.0082	-0.0361	0.7602	0.2844	0.4758	-2.0235
14	21.13	-0.01	5.7693	-11.1974	0.0218	0.0005	-0.0396	0.7516	0.2868	0.4648	-1.9409
15	22.18	-0.00	6.0610	-11.3218	0.0190	0.0316	0.0201	0.7434	0.2916	0.4519	-1.8680
16	23.25	-0.01	6.3780	-11.4740	0.0404	-0.0028	-0.0450	0.7279	0.2955	0.4324	-1.7990
17	24.36	-0.01	6.7262	-11.6419	0.0445	-0.0069	-0.0406	0.7692	0.3029	0.4663	-1.7308
18	25.33	-0.01	7.0394	-11.7991	0.0483	-0.0093	-0.0441	0.7754	0.3124	0.4631	-1.6762
19	20.11	-0.01	5.4443	-10.9135	0.0031	0.0317	-0.0330	0.5694	0.3072	0.2622	-2.0046
20	9.80	-0.01	3.1320	-9.1967	0.0077	0.0090	-0.0809	0.7888	0.2796	0.5093	-2.9344
21	0.01	-0.00	-0.8020	0.0749	-0.0217	0.0876	-0.0410	0.6595	0.2299	0.4294	-36.6163

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART			MACH	RX10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1			139	0.80	2.3	0.0	H4WDF32	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP		
1	0.00	-0.00	0.0250	-0.0365	-0.0196	0.0501	-0.0129	0.2568	0.0868	0.1700	-1.4696		
2	2.03	-0.00	0.2746	-0.3168	-0.0169	0.0585	-0.0133	0.2640	0.0874	0.1766	-1.1527		
3	4.11	-0.00	0.5705	-0.7352	-0.0187	0.0752	-0.0136	0.2751	0.0893	0.1858	-1.2806		
4	6.06	-0.00	0.9204	-1.3567	-0.0200	0.0861	-0.0136	0.2904	0.0965	0.1938	-1.4748		
5	8.06	-0.00	1.3310	-2.1751	-0.0216	0.0971	-0.0118	0.3107	0.1055	0.2052	-1.6342		
6	10.07	-0.00	1.7947	-3.1380	-0.0232	0.1048	-0.0116	0.3273	0.1096	0.2177	-1.7485		
7	12.10	-0.01	2.2884	-4.1813	-0.0312	0.1332	-0.0024	0.3543	0.1188	0.2355	-1.8268		
8	14.10	-0.00	2.8442	-5.3761	-0.0360	0.1350	0.0085	0.3719	0.1339	0.2380	-1.8902		
9	16.05	-0.00	3.4641	-6.7540	-0.0361	0.1078	0.0156	0.3627	0.1662	0.1965	-1.9497		
10	17.07	-0.00	3.7666	-7.3660	-0.0361	0.1095	0.0209	0.3787	0.1750	0.2037	-1.9556		
11	18.07	-0.00	4.0518	-7.9492	-0.0402	0.1109	0.0227	0.3813	0.1819	0.1994	-1.9619		
12	19.11	-0.00	4.3644	-8.5763	-0.0421	0.1182	0.0247	0.3835	0.1930	0.1905	-1.9641		
13	20.10	-0.00	4.6706	-9.1534	-0.0418	0.1328	0.0210	0.3938	0.1898	0.2040	-1.9598		
14	21.09	-0.00	4.9765	-9.7432	-0.0201	0.0944	0.0137	0.3972	0.2087	0.1885	-1.9578		
15	22.11	-0.00	5.2844	-10.2853	-0.0303	0.1211	0.0100	0.4051	0.2192	0.1859	-1.9463		
16	23.14	-0.01	5.5706	-10.7864	0.0007	0.0762	0.0043	0.4031	0.2167	0.1864	-1.9368		
17	24.14	-0.01	5.8872	-11.3350	0.0515	-0.0254	0.0017	0.4064	0.2423	0.1641	-1.9254		
18	25.13	-0.00	6.1551	-11.7574	0.0966	-0.1187	0.0098	0.4126	0.2526	0.1600	-1.9102		
19	26.14	-0.00	6.5047	-12.3307	0.1488	-0.3444	0.0352	0.4113	0.2730	0.1383	-1.8957		
20	27.19	0.00	6.7828	-12.7441	0.2443	-0.5561	0.0765	0.4036	0.2498	0.1138	-1.8789		
21	28.25	0.02	7.0437	-13.0417	0.3473	-0.7356	0.1620	0.4009	0.2938	0.1070	-1.8515		
22	29.24	0.02	7.3312	-13.4857	0.3587	-0.8050	0.1933	0.3939	0.3054	0.0885	-1.8395		
23	30.22	0.03	7.5226	-13.5867	0.4901	-1.0237	0.2973	0.4022	0.3202	0.0820	-1.8061		
24	20.05	-0.00	4.6915	-9.3390	-0.0391	0.1127	0.0212	0.3334	0.1933	0.1401	-1.9906		
25	10.07	-0.00	1.8070	-3.2832	-0.0170	0.0846	-0.0189	0.2737	0.1593	0.1144	-1.8179		
26	-0.00	-0.00	0.0412	-0.1305	-0.0155	0.0438	-0.0146	0.2297	0.0867	0.1430	-3.1709		



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(AT)  
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 SHEET 1 OF 1

TEST PART MACH R410-6      PHI      CONF      L      DEL1      DEL2      DEL3      DEL4      TRANSITION											
1      140 0.85 2.3      0.0 04W0F32      0.0      0      0      0      0      UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP
1	-0.00	-0.00	0.0343	-0.0965	-0.0186	0.0537	-0.0157	0.2407	0.0868	0.1539	-2.8157
2	2.03	-0.00	0.2904	-0.3807	-0.0184	0.0655	-0.0179	0.2480	0.0986	0.1594	-1.3111
3	4.05	-0.00	0.5819	-0.8023	-0.0199	0.0768	-0.0181	0.2541	0.0877	0.1664	-1.3789
4	6.11	-0.00	0.9458	-1.4702	-0.0195	0.0932	-0.0181	0.2692	0.0950	0.1742	-1.5544
5	8.10	-0.01	1.3702	-2.3212	-0.0206	0.1030	-0.0181	0.2866	0.1117	0.1749	-1.6948
6	10.06	-0.01	1.8214	-3.2663	-0.0221	0.1206	-0.0178	0.3041	0.1111	0.1929	-1.7033
7	12.08	-0.01	2.3446	-4.3481	-0.0294	0.1412	-0.0124	0.3206	0.1285	0.1921	-1.8758
8	14.09	-0.01	2.9137	-5.6511	-0.0396	0.1592	0.0001	0.3327	0.1469	0.1859	-1.9395
9	16.10	-0.00	3.5232	-6.9878	-0.0369	0.1162	0.0102	0.3377	0.1597	0.1788	-1.9834
10	17.10	-0.00	3.8277	-7.6092	-0.0408	0.1198	0.0153	0.3507	0.1685	0.1822	-1.9879
11	18.10	-0.00	4.1369	-8.2421	-0.0386	0.1142	0.0153	0.3602	0.1757	0.1845	-1.9923
12	19.06	-0.00	4.4313	-8.8091	-0.0441	0.1269	0.0172	0.3666	0.1952	0.1714	-1.9879
13	20.08	-0.00	4.7440	-9.4146	-0.0485	0.1454	0.0154	0.3762	0.1992	0.1770	-1.9845
14	21.11	-0.00	5.0632	-10.0005	-0.0341	0.1163	0.0117	0.3836	0.2080	0.1756	-1.9751
15	22.09	-0.00	5.3630	-10.5239	-0.0213	0.1089	0.0081	0.3866	0.2269	0.1597	-1.9623
16	23.11	-0.00	5.6562	-11.0310	0.0162	0.0393	0.0075	0.3867	0.2176	0.1690	-1.9583
17	24.12	-0.01	5.9974	-11.5995	0.0403	0.0051	0.0071	0.3933	0.2328	0.1606	-1.9341
18	25.14	-0.00	6.2710	-12.0303	0.1030	-0.1332	0.0216	0.3966	0.2465	0.1501	-1.9184
19	26.14	0.00	6.5872	-12.5040	0.1765	-0.3222	0.0545	0.4004	0.2626	0.1378	-1.8982
20	27.16	0.02	6.7701	-12.9793	0.2993	-0.6189	0.2006	0.4076	0.2790	0.1286	-1.8581
21	28.22	0.01	6.8196	-12.2403	0.2744	-0.3282	0.3275	0.4461	0.2987	0.1474	-1.7949
22	29.28	0.01	7.2101	-12.8697	0.3294	-0.4321	0.3239	0.4355	0.3420	0.0936	-1.7858
23	30.25	0.02	7.7042	-13.9172	0.3362	-0.6966	0.2622	0.3864	0.3490	0.0374	-1.8064
24	20.06	-0.00	4.7607	-9.5434	-0.0461	0.1269	0.0121	0.3258	0.2537	0.0721	-2.0846
25	10.06	-0.00	1.8545	-3.3943	-0.0163	0.0875	-0.0234	0.2743	0.1691	0.1052	-1.8303
26	-0.00	-0.00	0.0420	-0.1329	-0.0136	0.0422	-0.0209	0.2303	0.0799	0.1504	-3.1661

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART WACH RA10-6 PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 141 0.92 2.3 0.0 B4WDF32 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAP	XCP
1	-0.00	-0.00	0.0395	-0.1096	-0.0163	0.0529	-0.0198	0.2394	0.0864	0.1530	-2.7749
2	2.05	-0.00	0.2426	-0.3824	-0.0170	0.0650	-0.0201	0.2461	0.0762	0.1699	-1.3087
3	4.09	-0.00	0.5992	-0.8306	-0.0206	0.0792	-0.0204	0.2534	0.0903	0.1631	-1.3863
4	6.07	-0.00	0.9655	-1.5068	-0.0189	0.0869	-0.0205	0.2674	0.1063	0.1611	-1.5607
5	8.04	-0.01	1.4079	-2.4131	-0.0168	0.0987	-0.0202	0.2861	0.1124	0.1732	-1.7140
6	10.08	-0.01	1.8848	-3.4300	-0.0352	0.1309	-0.0201	0.3051	0.1252	0.1798	-1.8198
7	12.08	-0.01	2.4162	-4.6130	-0.0253	0.1332	-0.0182	0.3207	0.1273	0.1934	-1.9076
8	14.06	-0.01	3.0015	-5.9048	-0.0376	0.1558	-0.0048	0.3402	0.1379	0.2023	-1.9673
9	16.10	-0.01	3.6221	-7.2574	-0.0610	0.2205	0.0090	0.3545	0.1600	0.1945	-2.0038
10	17.06	-0.01	3.9227	-7.9045	-0.0718	0.2352	0.0173	0.3539	0.1634	0.1905	-2.0163
11	18.07	-0.01	4.2706	-8.6214	-0.0796	0.2626	0.0242	0.3651	0.1689	0.1962	-2.0188
12	19.09	-0.00	4.5803	-9.2268	-0.0829	0.2594	0.0290	0.3744	0.1823	0.1921	-2.0145
13	20.04	-0.00	4.8757	-9.7674	-0.0769	0.2406	0.0204	0.3864	0.1892	0.1972	-2.0033
14	21.11	-0.01	5.2049	-10.3886	-0.0852	0.2760	0.0042	0.3917	0.1933	0.1984	-1.9959
15	22.09	-0.01	5.5041	-10.9256	-0.0608	0.2296	0.0022	0.3791	0.2240	0.1551	-1.9850
16	23.07	-0.01	5.7975	-11.3869	-0.0377	0.1699	0.0001	0.3892	0.2215	0.1676	-1.9641
17	24.12	-0.01	6.1330	-11.6999	-0.0024	0.1376	0.0012	0.3945	0.2289	0.1656	-1.9403
18	25.12	-0.01	6.4529	-12.3503	0.0438	0.0643	0.0137	0.3928	0.2418	0.1510	-1.9139
19	26.20	-0.00	6.7749	-12.7572	0.1194	-0.1069	0.0794	0.3962	0.2542	0.1420	-1.8830
20	27.25	0.01	7.0592	-12.9865	0.1765	-0.2269	0.1704	0.4010	0.2711	0.1299	-1.8397
21	28.26	0.01	7.4052	-13.1372	0.2041	-0.2048	0.2273	0.4030	0.2716	0.1314	-1.7740
22	29.29	0.00	7.8690	-13.5360	0.1771	-0.1738	0.1926	0.3791	0.2873	0.0919	-1.7202
23	29.27	0.00	7.8044	-13.5619	0.1940	-0.2089	0.1919	0.3757	0.3098	0.0659	-1.7377
24	30.32	0.00	8.1449	-13.6522	0.1669	-0.0653	0.2230	0.3688	0.3031	0.0657	-1.6762
25	20.07	-0.00	4.9031	-9.9410	-0.0729	0.2279	0.0173	0.3355	0.2474	0.0881	-2.0275
26	10.06	-0.01	1.8941	-3.4974	-0.0189	0.1126	-0.0249	0.2637	0.1412	0.1425	-1.8465
27	-0.00	-0.00	0.0491	-0.1476	-0.0128	0.0437	-0.0215	0.2298	0.0840	0.1458	-3.0050

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEUC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(47)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART			MACH	RX10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
1			142	0.94	2.3	0.0	4440F32	0.0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CM	CLM	CY	CLW	CLL	CA	CAB	CAF	XCP	
1	-0.00	-0.00	0.0455	-0.1213	-0.0170	0.0533	-0.0194	0.2419	0.0745	0.1674	-2.6641	
2	-0.00	-0.00	0.0434	-0.1184	-0.0171	0.0516	-0.0195	0.2399	0.0717	0.1582	-2.7264	
3	2.02	-0.00	0.2920	-0.3707	-0.0179	0.0641	-0.0199	0.2452	0.0814	0.1639	-1.2696	
4	4.04	-0.00	0.5921	-0.8017	-0.0168	0.0749	-0.0217	0.2550	0.0760	0.1701	-1.3530	
5	4.04	-0.00	0.5915	-0.8045	-0.0160	0.0748	-0.0217	0.2548	0.0832	0.1716	-1.3601	
6	6.08	-0.00	0.9726	-1.4922	-0.0171	0.0894	-0.0201	0.2692	0.0925	0.1767	-1.5341	
7	8.07	-0.01	1.4247	-2.4239	-0.0167	0.1050	-0.0201	0.2875	0.1102	0.1774	-1.7014	
8	10.05	-0.01	1.9188	-3.5022	-0.0180	0.1102	-0.0182	0.3038	0.1183	0.1855	-1.8252	
9	12.07	-0.01	2.4497	-4.6874	-0.0298	0.1601	-0.0227	0.3217	0.1396	0.1821	-1.9134	
10	14.07	-0.01	3.0323	-5.9977	-0.0375	0.1481	-0.0063	0.3362	0.1436	0.1925	-1.9788	
11	16.07	-0.01	3.6600	-7.3839	-0.0498	0.1782	0.0070	0.3483	0.1551	0.1931	-2.0175	
12	17.11	-0.01	4.0091	-8.1314	-0.0642	0.2117	0.0169	0.3630	0.1629	0.2001	-2.0282	
13	18.06	-0.01	4.3163	-8.7733	-0.0812	0.2618	0.0255	0.3713	0.1707	0.2006	-2.0326	
14	19.07	-0.01	4.6551	-9.4465	-0.0934	0.2996	0.0291	0.3767	0.1800	0.1968	-2.0293	
15	20.09	-0.01	4.9704	-10.0804	-0.0975	0.3079	0.0402	0.3732	0.1883	0.1930	-2.0281	
16	21.10	-0.00	5.2933	-10.6258	-0.0788	0.2301	0.0348	0.3865	0.1970	0.1895	-2.0074	
17	22.05	-0.01	5.5872	-11.0974	-0.0562	0.2024	0.0180	0.3954	0.1973	0.1987	-1.9862	
18	23.12	-0.01	5.9349	-11.6446	-0.0395	0.1871	0.0017	0.3986	0.2058	0.1927	-1.9634	
19	24.10	-0.01	6.2648	-12.0662	0.0165	0.0954	0.0121	0.3973	0.2210	0.1762	-1.9292	
20	25.16	-0.01	6.5763	-12.4550	0.0610	0.0306	0.0276	0.3909	0.2412	0.1497	-1.8939	
21	26.21	-0.01	6.9338	-12.8571	0.1239	-0.0933	0.0785	0.3918	0.2520	0.1398	-1.8543	
22	27.28	0.00	7.2679	-13.1199	0.1762	-0.2103	0.1412	0.3900	0.2583	0.1316	-1.8088	
23	28.27	0.00	7.6772	-13.3631	0.2162	-0.2678	0.1834	0.3901	0.2669	0.1232	-1.7496	
24	29.35	0.00	8.0392	-13.5627	0.1362	-0.1245	0.1661	0.3864	0.2831	0.0834	-1.6871	
25	30.41	0.00	8.4549	-13.7815	0.1262	-0.0370	0.1710	0.3589	0.2871	0.0718	-1.6300	
26	20.06	-0.01	5.0032	-10.2028	-0.0825	0.2975	0.0357	0.3409	0.2365	0.1045	-2.0393	
27	10.07	-0.01	1.9318	-3.5695	-0.0124	0.0864	-0.0199	0.2863	0.1466	0.1396	-1.8477	
28	-0.00	-0.00	0.0462	-0.1308	-0.0138	0.0489	-0.0180	0.2353	0.0789	0.1563	-2.8327	

## ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

## PROPULSION WIND TUNNEL FACILITY(PWT)

## AERODYNAMIC WIND TUNNEL(AT)

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## MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH PX10-6 PH1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1	143	0.96	2.3	0.0	84W0F32	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	ACP
1	-0.00	-0.00	0.0449	-0.1236	-0.0146	0.0512	-0.0160	0.2553	0.0738	0.1415	-2.7506
2	2.04	-0.00	0.3075	-0.3873	-0.0104	0.0570	-0.0180	0.2599	0.0803	0.1796	-1.2804
3	4.06	-0.00	0.6047	-0.8366	-0.0153	0.0662	-0.0199	0.2718	0.0717	0.2001	-1.3835
4	6.10	-0.00	0.9937	-1.5418	-0.0165	0.0838	-0.0183	0.2831	0.0837	0.1994	-1.5516
5	8.10	-0.01	1.4301	-2.4430	-0.0203	0.1044	-0.0182	0.2898	0.0995	0.1902	-1.7083
6	8.10	-0.01	1.4526	-2.5021	-0.0166	0.0968	-0.0182	0.2983	0.0988	0.1995	-1.7223
7	10.06	-0.01	1.9670	-3.6506	-0.0156	0.1069	-0.0178	0.3234	0.1119	0.2115	-1.8559
8	10.06	-0.01	1.9305	-3.5609	-0.0184	0.1113	-0.0179	0.3103	0.1210	0.1893	-1.8445
9	12.05	-0.01	2.5032	-4.7746	-0.0206	0.1100	-0.0083	0.3328	0.1319	0.2009	-1.9074
10	14.06	-0.01	3.0651	-6.0532	-0.0381	0.1629	-0.0157	0.3447	0.1452	0.1995	-1.9749
11	16.09	-0.01	3.7069	-7.4883	-0.0459	0.1637	0.0052	0.3672	0.1532	0.2141	-2.0201
12	17.07	-0.00	4.0247	-8.1811	-0.0564	0.1798	0.0133	0.3722	0.1617	0.2105	-2.0327
13	18.07	-0.00	4.3660	-8.8914	-0.0693	0.2081	0.0199	0.3824	0.1719	0.2105	-2.0365
14	19.09	-0.00	4.7032	-9.5614	-0.0752	0.2416	0.0314	0.3909	0.1801	0.2109	-2.0330
15	20.06	-0.01	5.0264	-10.1934	-0.0874	0.2874	0.0365	0.3917	0.1858	0.2059	-2.0280
16	21.07	-0.01	5.3712	-10.7498	-0.0945	0.3307	0.0383	0.4053	0.1923	0.2130	-2.0080
17	22.09	-0.01	5.7253	-11.3586	-0.0514	0.2291	0.0342	0.4109	0.2090	0.2019	-1.9839
18	23.13	-0.01	6.0858	-11.8669	-0.0023	0.1473	0.0222	0.4114	0.2240	0.1874	-1.9499
19	24.14	-0.01	6.4628	-12.3813	0.0600	0.0196	0.0273	0.4035	0.2389	0.1646	-1.9158
20	25.21	-0.01	6.8168	-12.7423	0.1074	-0.0552	0.0484	0.4025	0.2406	0.1619	-1.8693
21	26.20	-0.01	7.1045	-12.9965	0.1362	-0.0784	0.0804	0.3936	0.2579	0.1357	-1.8280
22	27.24	-0.00	7.4140	-13.2041	0.1522	-0.1239	0.1163	0.3854	0.2664	0.1190	-1.7798
23	27.26	-0.01	7.5412	-13.7821	0.1507	-0.0892	0.0976	0.3970	0.2527	0.1443	-1.7613
24	28.32	-0.00	7.8820	-13.5072	0.1920	-0.1718	0.1471	0.3813	0.2773	0.1039	-1.7137
25	28.32	-0.00	7.8843	-13.4972	0.1862	-0.1655	0.1402	0.3803	0.2721	0.1082	-1.7119
26	29.38	-0.01	8.3416	-13.7010	0.1045	-0.0020	0.1016	0.3608	0.2734	0.0875	-1.6425
27	30.45	-0.01	8.7236	-13.8220	0.1149	0.0295	0.0852	0.3474	0.2741	0.0733	-1.5844
28	20.11	-0.00	5.0617	-10.3677	-0.0860	0.2676	0.0333	0.3589	0.2542	0.1047	-2.8443
29	10.09	-0.01	1.9824	-3.7083	-0.0111	0.0837	-0.0180	0.2941	0.1737	0.1204	-1.8706
30	-0.00	-0.00	0.0520	-0.1457	-0.0168	0.0468	-0.0144	0.2448	0.0766	0.1682	-2.8033

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART MACH RK10-6				PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 144 0.98 2.3				0.0	84-0F32	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP	
1	-0.00	-0.00	0.0510	-0.1392	-0.0143	0.0391	-0.0143	0.2730	0.0803	0.1927	-2.7286	
2	7.06	-0.00	0.3194	-0.4471	-0.0149	0.0509	-0.0163	0.2814	0.0851	0.1963	-1.3999	
3	4.04	-0.00	0.6352	-0.9466	-0.0157	0.0600	-0.0164	0.2970	0.0880	0.2091	-1.4906	
4	6.04	-0.00	1.0149	-1.6405	-0.0104	0.0697	-0.0149	0.3039	0.1015	0.2023	-1.6164	
5	8.07	-0.01	1.4941	-2.6998	-0.0109	0.0899	-0.0146	0.3314	0.1039	0.2274	-1.8070	
6	10.07	-0.01	2.0342	-3.8578	-0.0155	0.1055	-0.0129	0.3423	0.1225	0.2197	-1.8965	
7	12.06	-0.01	2.5925	-5.1701	-0.0173	0.1061	-0.0079	0.3670	0.1234	0.2436	-1.9942	
8	14.06	-0.01	3.1765	-6.5086	-0.0263	0.1230	-0.0122	0.3843	0.1438	0.2405	-2.0477	
9	16.05	-0.01	3.7569	-7.7270	-0.0390	0.1425	-0.0027	0.4023	0.1624	0.2399	-2.0540	
10	17.07	-0.00	4.1037	-8.4319	-0.0469	0.1548	0.0114	0.4119	0.1682	0.2438	-2.0547	
11	18.11	-0.00	4.3974	-9.0137	-0.0587	0.1843	0.0179	0.4199	0.1775	0.2425	-2.0498	
12	19.07	-0.00	4.7732	-9.7537	-0.0611	0.2010	0.0211	0.4324	0.1808	0.2515	-2.0434	
13	20.07	-0.01	5.1033	-10.3514	-0.0570	0.2214	0.0228	0.4331	0.2020	0.2311	-2.0285	
14	21.13	-0.01	5.4629	-10.9252	-0.0436	0.2315	0.0244	0.4453	0.2184	0.2269	-1.9999	
15	22.12	-0.01	5.8194	-11.4735	-0.0000	0.1772	0.0285	0.4332	0.2685	0.1647	-1.9714	
16	23.13	-0.01	6.2602	-12.0728	0.0283	0.1362	0.0279	0.4531	0.2661	0.1870	-1.9285	
17	24.19	-0.01	6.6161	-12.5466	0.0567	0.0743	0.0303	0.4357	0.2687	0.1669	-1.8961	
18	25.22	-0.01	6.9936	-12.9437	0.0626	0.0531	0.0326	0.4305	0.2640	0.1665	-1.8508	
19	26.23	-0.01	7.4356	-13.3441	0.1047	-0.0202	0.0392	0.4324	0.2541	0.1783	-1.7946	
20	27.29	-0.01	7.7976	-13.5770	0.1071	-0.0165	0.0401	0.4143	0.2677	0.1466	-1.7412	
21	28.34	-0.02	8.2634	-13.8026	0.0890	0.0725	0.0366	0.4048	0.2656	0.1392	-1.6703	
22	29.38	-0.02	8.6227	-13.8547	0.0511	0.1582	0.0204	0.3840	0.2696	0.1144	-1.6068	
23	30.54	-0.02	9.0357	-13.8839	0.0439	0.1158	0.0236	0.3671	0.2799	0.0872	-1.5346	
24	20.08	-0.01	5.1439	-10.4859	-0.0441	0.1827	0.0116	0.4120	0.2709	0.1411	-2.0385	
25	10.03	-0.00	2.0162	-3.9530	-0.0104	0.0728	-0.0145	0.3157	0.2001	0.1156	-1.9606	
26	10.04	-0.00	2.0047	-3.8634	-0.0126	0.0783	-0.0114	0.3207	0.1589	0.1618	-1.9224	
27	10.03	-0.01	2.0440	-4.0010	-0.0118	0.0799	-0.0112	0.3388	0.1358	0.2030	-1.9577	
28	-0.00	-0.00	0.0535	-0.1620	-0.0154	0.0350	-0.0096	0.2679	0.0867	0.1811	-3.0277	

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 150 1.10 2.3 0.0 840F32 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-0.00	-0.00	0.0028	-0.0319	-0.0322	0.1153	-0.0130	0.5047	0.1516	0.3531	-1.2488
2	2.02	-0.01	0.2817	-0.3972	-0.0323	0.1271	-0.0061	0.5177	0.1645	0.3532	-1.4104
3	4.04	-0.01	0.6022	-0.9081	-0.0274	0.1267	-0.0063	0.5348	0.1657	0.3691	-1.5080
4	6.03	-0.01	1.0014	-1.6926	-0.0302	0.1453	-0.0062	0.5570	0.1729	0.3842	-1.6982
5	8.04	-0.01	1.4517	-2.6178	-0.0279	0.1377	-0.0049	0.5876	0.1790	0.4086	-1.8833
6	8.03	-0.01	1.4611	-2.6878	-0.0326	0.1546	-0.0047	0.5790	0.1953	0.3837	-1.8395
7	10.02	-0.01	1.9599	-3.7560	-0.0289	0.1645	-0.0030	0.6030	0.2085	0.3945	-1.9164
8	12.06	-0.01	2.4974	-4.8874	-0.0245	0.1538	0.0013	0.6172	0.2165	0.4007	-1.9570
9	14.04	-0.01	3.0517	-6.0065	-0.0270	0.1447	0.0069	0.6304	0.2238	0.4065	-1.9682
10	16.05	-0.00	3.6286	-7.1719	-0.0485	0.1690	0.0213	0.6507	0.2356	0.4151	-1.9765
11	17.06	-0.01	3.9653	-7.8257	-0.0645	0.2355	0.0175	0.6594	0.2486	0.4108	-1.9735
12	18.08	-0.01	4.2791	-8.3480	-0.0694	0.2389	0.0201	0.6682	0.2462	0.4220	-1.9509
13	19.04	-0.01	4.5979	-8.8601	-0.0700	0.2356	0.0270	0.6768	0.2589	0.4179	-1.9270
14	20.09	-0.01	4.9330	-9.3715	-0.0633	0.2353	0.0253	0.6786	0.2664	0.4122	-1.8998
15	21.13	-0.01	5.3155	-9.8719	-0.0499	0.2070	0.0264	0.6763	0.2811	0.3952	-1.8760
16	22.17	-0.01	5.6786	-10.4744	-0.0340	0.1975	0.0261	0.6733	0.2896	0.3837	-1.8445
17	22.19	-0.01	5.7286	-10.4428	-0.0320	0.2415	0.0033	0.6611	0.2816	0.3795	-1.8229
18	23.19	-0.02	6.0991	-10.8430	-0.0191	0.2263	0.0013	0.6555	0.2911	0.3643	-1.7778
19	24.27	-0.02	6.5084	-11.3364	-0.0287	0.2567	-0.0005	0.6550	0.2951	0.3599	-1.7418
20	25.27	-0.02	6.9262	-11.7881	-0.0326	0.2612	-0.0011	0.6471	0.2953	0.3518	-1.7028
21	26.30	-0.01	7.3167	-12.2157	0.0315	0.1068	0.0174	0.6401	0.3110	0.3291	-1.6696
22	27.36	-0.01	7.7338	-12.5871	0.0563	0.0354	0.0204	0.6223	0.3037	0.3186	-1.6275
23	28.39	-0.01	8.1631	-12.9370	0.0506	0.0435	0.0224	0.6093	0.2985	0.3108	-1.5848
24	29.46	-0.01	8.5864	-13.2743	0.0536	0.0444	0.0217	0.5966	0.3016	0.2950	-1.5460
25	30.56	-0.01	9.0260	-13.5950	-0.0058	0.1669	0.0101	0.5818	0.3029	0.2789	-1.5062
26	20.11	-0.01	5.0015	-9.5940	-0.0520	0.2154	0.0198	0.6347	0.3019	0.3328	-1.9182
27	10.03	-0.01	1.9943	-3.9051	-0.0277	0.1207	0.0068	0.5749	0.2716	0.3032	-1.9582
28	-0.00	-0.00	0.0056	-0.0364	-0.0207	0.0453	0.0080	0.5099	0.1984	0.3114	-8.5374

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RK10-6 PH1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 151 1.20 2.3 0.0 0440F32 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
0	0.00	0.00	-0.0222	0.0658	-0.0079	0.0016	0.0138	0.5370	0.1782	0.3588	-2.9578
1	0.00	0.00	-0.0203	0.0629	-0.0078	0.0032	0.0152	0.5372	0.1839	0.3533	-3.0976
2	0.00	0.00	-0.0223	0.0624	-0.0079	0.0049	0.0180	0.5390	0.1843	0.3546	-2.8032
3	2.04	0.00	0.2788	-0.3611	-0.0094	0.0181	0.0191	0.5466	0.1786	0.3680	-1.2951
4	2.04	0.00	0.2714	-0.3301	-0.0095	0.0200	0.0192	0.5454	0.1867	0.3587	-1.2161
5	3.00	-0.00	0.4190	-0.5508	-0.0108	0.0256	0.0191	0.5480	0.1851	0.3629	-1.3147
6	4.05	-0.00	0.6036	-0.8659	-0.0059	0.0237	0.0204	0.5529	0.1894	0.3634	-1.4351
7	6.06	0.00	1.0042	-1.6441	-0.0157	0.0377	0.0245	0.5779	0.1899	0.3879	-1.6372
8	8.03	-0.00	1.4473	-2.5426	-0.0124	0.0442	0.0246	0.6008	0.1959	0.4050	-1.7563
9	10.06	-0.00	1.9396	-3.5628	-0.0047	0.0456	0.0247	0.6175	0.2041	0.4134	-1.8368
10	12.06	-0.00	2.4638	-4.6064	-0.0044	0.0481	0.0260	0.6297	0.2128	0.4169	-1.8696
11	14.07	-0.00	3.0222	-5.6825	-0.0017	0.0523	0.0273	0.6369	0.2211	0.4158	-1.8883
12	16.12	-0.00	3.6305	-6.7589	-0.0130	0.0678	0.0340	0.6464	0.2266	0.4197	-1.8617
13	16.12	-0.00	3.6358	-6.7780	-0.0130	0.0678	0.0340	0.6430	0.2352	0.4078	-1.8642
14	16.12	-0.00	3.6511	-6.8083	-0.0091	0.0640	0.0355	0.6442	0.2393	0.4049	-1.8647
15	17.11	-0.00	3.9332	-7.2507	-0.0153	0.0734	0.0365	0.6475	0.2403	0.4071	-1.8438
16	18.14	-0.00	4.2773	-7.7749	-0.0259	0.1181	0.0285	0.6525	0.2468	0.4057	-1.8177
17	19.15	-0.00	4.6302	-8.2254	-0.0403	0.1538	0.0255	0.6546	0.2485	0.4061	-1.7764
18	20.21	-0.01	5.0144	-8.6718	-0.0296	0.1468	0.0181	0.6547	0.2512	0.4035	-1.7294
19	21.23	-0.01	5.3937	-9.0728	-0.0224	0.1260	0.0228	0.6493	0.2546	0.3947	-1.6821
20	22.28	-0.01	5.7989	-9.4694	-0.0169	0.1177	0.0234	0.6465	0.2558	0.3907	-1.6338
21	23.32	-0.01	6.2101	-9.9137	0.0053	0.0917	0.0255	0.6433	0.2589	0.3845	-1.5964
22	24.39	-0.01	6.6145	-10.3545	0.0264	0.0617	0.0289	0.6413	0.2668	0.3745	-1.5654
23	25.38	-0.01	7.0073	-10.7785	0.0541	0.0238	0.0309	0.6411	0.2721	0.3690	-1.5382
24	26.45	-0.01	7.4468	-11.1804	0.0621	-0.0358	0.0353	0.6333	0.2753	0.3579	-1.5014
25	27.49	-0.01	7.8726	-11.5821	0.1252	-0.1197	0.0395	0.6272	0.2784	0.3488	-1.4712
26	28.55	-0.01	8.2999	-11.9899	0.1126	-0.0800	0.0360	0.6225	0.2849	0.3376	-1.4444
27	29.60	-0.01	8.7298	-12.4024	0.1359	-0.1337	0.0415	0.6149	0.2874	0.3275	-1.4207
28	30.66	-0.01	9.1858	-12.8277	0.1824	-0.2177	0.0456	0.6233	0.2895	0.3338	-1.3965
29	22.27	-0.01	5.8060	-9.5441	-0.0092	0.1001	0.0249	0.6256	0.2834	0.3422	-1.6438
30	10.05	-0.00	1.9548	-3.6408	-0.0063	0.0422	0.0329	0.6009	0.2534	0.3475	-1.8625
31	-0.00	0.00	-0.0141	0.0301	-0.0051	-0.0125	0.0317	0.5323	0.2045	0.3278	-2.1353

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 152 1.30 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 04=0F32 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAD	CAF	RCP
1	0.00	0.00	-0.0178	0.0581	-0.0134	-0.0126	0.0348	0.5198	0.1863	0.3335	-3.2617
2	2.05	-0.00	0.2748	-0.3240	0.0001	0.0077	0.0361	0.5245	0.1877	0.3368	-1.1790
3	4.02	0.00	0.5974	-0.8385	-0.0086	0.0161	0.0372	0.5323	0.1883	0.3440	-1.4036
4	6.04	-0.00	0.9863	-1.5552	-0.0032	0.0261	0.0372	0.5575	0.1891	0.3483	-1.5768
5	8.05	-0.00	1.4320	-2.4443	-0.0064	0.0466	0.0360	0.5805	0.1930	0.3875	-1.7069
6	10.04	-0.00	1.8968	-3.3621	-0.0131	0.0611	0.0361	0.5963	0.2006	0.3957	-1.7707
7	12.07	-0.00	2.4277	-4.3571	-0.0033	0.0533	0.0372	0.6052	0.2090	0.3962	-1.7947
8	14.10	-0.00	2.9758	-5.3381	-0.0028	0.0516	0.0397	0.6096	0.2163	0.3934	-1.7920
9	16.15	-0.00	3.5537	-6.2402	-0.0031	0.0535	0.0433	0.6232	0.2222	0.4010	-1.7560
10	17.15	-0.00	3.8958	-6.6955	-0.0060	0.0607	0.0457	0.6223	0.2226	0.3997	-1.7186
11	18.17	0.00	4.2516	-7.1087	-0.0126	0.0625	0.0477	0.6234	0.2269	0.3965	-1.6720
12	19.25	-0.00	4.6408	-7.5505	-0.0114	0.0822	0.0434	0.6277	0.2321	0.3956	-1.6278
13	20.24	-0.00	5.0026	-7.9370	-0.0142	0.0915	0.0402	0.6284	0.2352	0.3932	-1.5866
14	21.31	-0.01	5.3943	-8.3552	-0.0082	0.1060	0.0371	0.6287	0.2418	0.3868	-1.5489
15	22.35	-0.01	5.7759	-8.7424	-0.0062	0.1071	0.0311	0.6302	0.2470	0.3832	-1.5134
16	23.40	-0.01	6.1798	-9.1567	0.0060	0.0973	0.0331	0.6346	0.2549	0.3797	-1.4817
17	24.46	-0.01	6.5773	-9.5318	0.0258	0.0518	0.0360	0.6337	0.2579	0.3758	-1.4492
18	25.51	-0.00	6.9595	-9.8653	0.0474	0.0011	0.0414	0.6317	0.2638	0.3679	-1.4178
19	26.54	-0.00	7.3699	-10.2272	0.0775	-0.0603	0.0494	0.6326	0.2684	0.3642	-1.3877
20	27.58	-0.00	7.8005	-10.6185	0.0967	-0.1056	0.0561	0.6334	0.2738	0.3592	-1.3613
21	28.62	-0.00	8.2173	-11.0104	0.1075	-0.1166	0.0523	0.6356	0.2781	0.3576	-1.3399
22	29.68	-0.01	8.6433	-11.4377	0.0982	-0.0740	0.0450	0.6375	0.2802	0.3573	-1.3233
23	30.74	-0.01	9.0605	-11.8701	0.0980	-0.0646	0.0457	0.6439	0.2857	0.3582	-1.3101
24	30.28	-0.00	5.0181	-7.9860	-0.0121	0.0868	0.0429	0.6085	0.2865	0.3219	-1.5914
25	10.07	-0.00	1.9176	-3.4386	-0.0026	0.0503	0.0388	0.5881	0.2561	0.3320	-1.7932
26	0.00	0.00	-0.0121	0.0430	-0.0096	-0.0101	0.0389	0.5207	0.2251	0.2955	-3.5678



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 15A 0.00 2.3 0.0 0.40031 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-0.00	0.00	0.0180	-0.0392	-0.0073	0.0018	-0.0170	0.2626	0.1157	0.1469	-2.1841
2	0.00	0.00	0.0307	-0.0403	-0.0098	0.0055	-0.0170	0.2644	0.0739	0.1905	-1.3148
3	2.01	0.00	0.2829	-0.3593	-0.0058	0.0053	-0.0210	0.2692	0.1083	0.1610	-1.2698
4	4.01	0.00	0.4006	-0.4975	-0.0048	0.0043	-0.0265	0.2752	0.0834	0.1917	-1.4943
5	6.05	0.00	1.0017	-1.6785	-0.0029	-0.0031	-0.0287	0.2908	0.0996	0.1911	-1.6757
6	8.05	0.00	1.4406	-2.5109	-0.0002	-0.0119	-0.0342	0.3159	0.1107	0.2052	-1.8124
7	10.02	0.00	1.9388	-3.6717	0.0067	-0.0380	-0.0309	0.3470	0.1218	0.2252	-1.8938
8	12.03	0.00	2.4726	-4.8128	0.0078	-0.0750	-0.0294	0.3714	0.1315	0.2399	-1.9463
9	14.02	0.00	3.0282	-5.9961	0.0092	-0.1058	-0.0333	0.3944	0.1430	0.2513	-1.9881
10	16.04	0.01	3.6481	-7.2953	0.0038	-0.1288	-0.0209	0.4228	0.1569	0.2659	-1.9998
11	17.06	0.01	3.9656	-7.9708	0.0034	-0.1428	-0.0139	0.4364	0.1736	0.2628	-2.0188
12	18.06	0.01	4.2905	-8.6317	0.0045	-0.1620	-0.0069	0.4528	0.1845	0.2683	-2.0118
13	19.04	0.01	4.6063	-9.2894	0.0096	-0.1725	-0.0051	0.4660	0.1776	0.2884	-2.0167
14	19.04	0.01	4.6165	-9.3231	0.0046	-0.1603	-0.0050	0.4544	0.2163	0.2386	-2.0195
15	20.08	0.01	4.9391	-9.9467	0.0020	-0.1566	-0.0033	0.4849	0.2218	0.2631	-2.0139
16	21.07	0.01	5.2518	-10.5450	0.0048	-0.1404	-0.0122	0.4838	0.2252	0.2586	-2.0079
17	22.09	0.01	5.5481	-11.0706	0.0004	-0.1127	-0.0176	0.4912	0.2357	0.2555	-1.9954
18	23.10	0.00	5.8581	-11.5230	0.0107	-0.0719	-0.0190	0.4980	0.2458	0.2522	-1.9678
19	24.07	0.00	6.1009	-11.8285	0.0142	-0.1193	-0.0272	0.5051	0.2603	0.2448	-1.9388
20	25.10	0.00	6.3836	-12.2503	0.0611	-0.2193	-0.0298	0.5134	0.2714	0.2420	-1.9192
21	26.12	-0.00	6.7348	-12.7820	0.1719	-0.3677	-0.0198	0.5161	0.2796	0.2365	-1.8979
22	27.14	-0.00	7.0770	-13.3430	0.2605	-0.5275	-0.0065	0.5108	0.3031	0.2076	-1.8854
23	28.17	-0.00	7.3109	-13.5426	0.4740	-0.9336	0.0337	0.4940	0.2986	0.1954	-1.8524
24	28.17	0.00	7.3313	-13.5878	0.4609	-0.9104	0.0356	0.4914	0.3084	0.1830	-1.8534
25	28.17	0.00	7.3261	-13.6051	0.4513	-0.8890	0.0342	0.4849	0.3129	0.1719	-1.8571
26	29.21	0.00	7.6011	-13.9214	0.4689	-0.9551	0.0641	0.4818	0.3167	0.1650	-1.8315
27	30.21	0.00	7.8535	-14.1234	0.6268	-1.2002	0.1060	0.4726	0.3247	0.1479	-1.7984
28	20.06	0.01	4.9762	-10.1530	-0.0120	-0.0762	0.0016	0.4036	0.2281	0.1755	-2.0403
29	10.02	-0.00	1.9602	-3.8142	-0.0036	0.0305	-0.0297	0.2941	0.1438	0.1502	-1.9458
30	-0.00	-0.00	0.0349	-0.1065	-0.0119	0.0299	-0.0165	0.2367	0.0872	0.1496	-3.4464

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 157 0.85 2.3 0.0 B4W0F31 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-0.00	-0.00	0.0299	-0.0946	-0.0104	0.0252	-0.0161	0.2444	0.0793	0.1651	-3.1655
2	2.01	-0.00	0.2416	-0.4162	-0.0101	0.0281	-0.0217	0.2499	0.0921	0.1577	-1.4274
3	4.04	-0.00	0.6208	-0.9776	-0.0088	0.0309	-0.0253	0.2569	0.0964	0.1605	-1.5747
4	6.02	-0.00	1.0137	-1.7533	-0.0069	0.0279	-0.0273	0.2700	0.1036	0.1664	-1.7296
5	8.02	-0.00	1.4596	-2.6988	-0.0052	0.0227	-0.0308	0.2942	0.1091	0.1851	-1.8498
6	10.01	-0.00	1.9585	-3.7829	-0.0019	0.0087	-0.0293	0.3184	0.1230	0.1954	-1.9315
7	12.03	-0.00	2.5132	-4.9846	0.0021	-0.0191	-0.0295	0.3413	0.1360	0.2053	-1.9834
8	14.03	0.00	3.0555	-6.1405	-0.0004	-0.0460	-0.0317	0.3633	0.1456	0.2176	-2.0097
9	16.06	0.00	3.6920	-7.4863	-0.0063	-0.0653	-0.0195	0.3861	0.1573	0.2288	-2.0278
10	17.05	0.01	4.0125	-8.1555	-0.0064	-0.0763	-0.0126	0.4027	0.1691	0.2336	-2.0325
11	18.03	0.01	4.3162	-8.7706	-0.0048	-0.0945	-0.0058	0.4181	0.1684	0.2497	-2.0328
12	19.07	0.01	4.6670	-9.4848	-0.0034	-0.1117	-0.0060	0.4429	0.1860	0.2569	-2.0323
13	20.06	0.01	4.9818	-10.1030	-0.0014	-0.1073	-0.0060	0.4580	0.2087	0.2493	-2.0280
14	21.03	0.01	5.2814	-10.6537	0.0009	-0.1042	-0.0079	0.4632	0.2231	0.2401	-2.0172
15	21.03	0.01	5.3109	-10.7438	0.0002	-0.1051	-0.0078	0.4582	0.2192	0.2390	-2.0238
16	22.06	0.01	5.6459	-11.3134	-0.0035	-0.0807	-0.0095	0.4637	0.2368	0.2268	-2.0038
17	23.06	0.00	5.9245	-11.7055	0.0084	-0.0673	-0.0095	0.4759	0.2408	0.2351	-1.9758
18	24.10	0.00	6.2238	-12.1230	0.0259	-0.0982	-0.0083	0.4865	0.2577	0.2268	-1.9478
19	24.10	0.00	6.2089	-12.1067	0.0222	-0.0978	-0.0065	0.4783	0.2631	0.2152	-1.9499
20	25.13	0.00	6.4958	-12.4977	0.0956	-0.2258	-0.0147	0.4861	0.2767	0.2093	-1.9240
21	26.13	-0.00	6.8145	-12.9055	0.1432	-0.2947	0.0084	0.4994	0.2469	0.2325	-1.8938
22	27.14	0.00	7.1130	-13.3067	0.3527	-0.7046	0.0358	0.4871	0.2835	0.2036	-1.8718
23	28.20	0.01	7.2990	-13.3616	0.6580	-1.3464	0.1068	0.4696	0.2820	0.1876	-1.8306
24	28.19	0.01	7.3408	-13.4605	0.6510	-1.3295	0.1034	0.4718	0.3296	0.1422	-1.8337
25	29.18	0.01	7.6022	-13.7594	0.6766	-1.3615	0.1277	0.4683	0.3318	0.1365	-1.8099
26	30.23	0.01	7.8793	-14.0473	0.6588	-1.3149	0.1540	0.4614	0.3328	0.1287	-1.7828
27	20.06	0.01	5.0009	-10.2311	-0.0053	-0.0681	-0.0035	0.4018	0.2450	0.1568	-2.0459
28	10.04	-0.00	1.9801	-3.8861	-0.0064	0.0400	-0.0289	0.2957	0.1774	0.1182	-1.9626
29	10.04	-0.00	1.9861	-3.8847	-0.0050	0.0359	-0.0289	0.2979	0.1521	0.1458	-1.9579
30	-0.00	-0.00	0.0375	-0.1147	-0.0115	0.0332	-0.0143	0.2388	0.0952	0.1436	-3.8561

## ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

## PROPULSION WIND TUNNEL FACILITY(PWT)

## AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1 150 0.92 2.3 0.0 BAWDF31 0.0 0 0 0 0 UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	XCP
1	-0.00	-0.00	0.0326	-0.0992	-0.0096	0.0254	-0.0167	0.2439	0.0053	0.1585	-3.0443
2	2.01	-0.00	0.2889	-0.4170	-0.0138	0.0346	-0.0203	0.2490	0.0927	0.1563	-1.4430
3	4.03	-0.00	0.6300	-1.0029	-0.0077	0.0359	-0.0237	0.2592	0.0824	0.1768	-1.5019
4	6.02	-0.00	1.0280	-1.6019	-0.0067	0.0284	-0.0273	0.2701	0.1058	0.1643	-1.7529
5	6.02	-0.00	1.0315	-1.6089	-0.0076	0.0354	-0.0254	0.2709	0.0951	0.1758	-1.7530
6	8.01	-0.00	1.4915	-2.0064	-0.0079	0.0332	-0.0320	0.2959	0.1103	0.1856	-1.8810
7	10.05	-0.00	2.0104	-3.0013	-0.0005	0.0193	-0.0304	0.3227	0.1175	0.2052	-1.9725
8	12.01	-0.00	2.5453	-5.1318	0.0033	-0.0127	-0.0306	0.3462	0.1316	0.2146	-2.0162
9	14.02	0.00	3.1396	-6.4367	0.0012	-0.0284	-0.0356	0.3648	0.1470	0.2178	-2.0582
10	17.05	0.00	4.0811	-8.4335	-0.0047	-0.0541	-0.0178	0.4119	0.1708	0.2411	-2.0665
11	18.04	0.01	4.4310	-9.1333	-0.0115	-0.0627	-0.0083	0.4328	0.1868	0.2460	-2.0612
12	19.06	0.01	4.7349	-9.7675	-0.0090	-0.0744	-0.0101	0.4519	0.1984	0.2535	-2.0612
13	20.03	0.01	5.0857	-10.4267	-0.0039	-0.0720	-0.0151	0.4769	0.2055	0.2713	-2.0592
14	21.05	0.00	5.4044	-11.0020	0.0053	-0.0754	-0.0168	0.4822	0.2176	0.2646	-2.0357
15	22.06	0.00	5.7224	-11.5314	0.0124	-0.0911	-0.0186	0.4934	0.2285	0.2649	-2.0151
16	23.10	0.00	6.0561	-12.0342	0.0193	-0.0845	-0.0189	0.5032	0.2345	0.2687	-1.9871
17	24.11	-0.00	6.3695	-12.4245	0.0321	-0.0601	-0.0222	0.5073	0.2412	0.2660	-1.9506
18	25.13	-0.00	6.6381	-12.7467	0.1039	-0.1927	-0.0085	0.5016	0.2599	0.2417	-1.9205
19	26.16	0.00	7.0061	-13.2015	0.1667	-0.3475	0.0047	0.4973	0.2689	0.2284	-1.8843
20	27.20	0.00	7.3031	-13.4554	0.2675	-0.5475	0.0491	0.4866	0.2804	0.2062	-1.8438
21	27.20	0.00	7.2970	-13.4202	0.2692	-0.5583	0.0485	0.4792	0.2785	0.2006	-1.8391
22	28.21	0.01	7.6778	-13.6813	0.3521	-0.7692	0.0753	0.4603	0.2778	0.1825	-1.7819
23	29.28	0.01	8.0922	-13.8997	0.4058	-0.8729	0.0951	0.4336	0.2845	0.1491	-1.7177
24	30.35	0.01	8.4847	-14.0702	0.4313	-0.9238	0.1250	0.4126	0.2870	0.1255	-1.6503
25	20.04	0.00	5.0889	-10.5422	-0.0069	-0.0290	-0.0110	0.4123	0.2687	0.1436	-2.0716
26	10.03	-0.00	2.0243	-4.6393	-0.0037	0.0433	-0.0300	0.3009	0.1822	0.1187	-1.9954
27	-0.00	-0.00	0.0374	-0.1185	-0.0084	0.0314	-0.0158	0.2351	0.1055	0.1296	-3.1667

## ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

## PROPULSION WIND TUNNEL FACILITY(PWT)

## AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PH1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 159 0.96 2.3 0.0 M40F31 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAR	CAF	KCP
1	-0.00	-0.00	0.0336	-0.0988	-0.0093	0.0263	-0.0146	0.2826	0.1035	0.1791	-2.9432
2	-0.00	-0.00	0.0313	-0.0954	-0.0082	0.0265	-0.0145	0.2811	0.1026	0.1785	-3.0484
3	-0.00	-0.00	0.0334	-0.0945	-0.0081	0.0278	-0.0145	0.2838	0.0941	0.1897	-2.8294
4	2.03	-0.00	0.3028	-0.4416	-0.0086	0.0303	-0.0196	0.2863	0.0985	0.1878	-1.4585
5	4.03	-0.00	0.6520	-1.0596	-0.0091	0.0352	-0.0246	0.2923	0.0973	0.1950	-1.6251
6	4.03	-0.00	0.6512	-1.0652	-0.0068	0.0353	-0.0244	0.3009	0.0964	0.2044	-1.6357
7	6.01	-0.00	1.0694	-1.9261	-0.0031	0.0333	-0.0276	0.3183	0.1026	0.2156	-1.8011
8	8.02	-0.00	1.5488	-2.9876	-0.0051	0.0317	-0.0309	0.3376	0.1203	0.2173	-1.9290
9	8.02	-0.00	1.5603	-3.0429	-0.0004	0.0317	-0.0336	0.3518	0.1145	0.2372	-1.9502
10	10.03	-0.00	2.0964	-4.2632	0.0015	0.0127	-0.0306	0.3721	0.1321	0.2400	-2.0336
11	12.00	-0.00	2.6614	-5.5087	0.0048	-0.0064	-0.0323	0.3944	0.1422	0.2521	-2.0699
12	14.03	0.00	3.2733	-6.8535	0.0021	-0.0263	-0.0356	0.4141	0.1533	0.2608	-2.0938
13	16.01	0.00	3.8858	-8.1606	0.0039	-0.0466	-0.0278	0.4492	0.1660	0.2832	-2.1001
14	17.04	0.00	4.2156	-8.8439	-0.0022	-0.0457	-0.0248	0.4670	0.1859	0.2811	-2.0979
15	18.03	0.00	4.5444	-9.5171	-0.0060	-0.0479	-0.0202	0.4904	0.1985	0.2919	-2.0919
16	19.03	0.00	4.8860	-10.1425	-0.0032	-0.0537	-0.0235	0.5100	0.2123	0.2976	-2.0758
17	20.06	0.00	5.2393	-10.7725	0.0203	-0.0875	-0.0302	0.5326	0.2172	0.3154	-2.0561
18	21.07	0.00	5.5842	-11.3394	0.0457	-0.1315	-0.0355	0.5349	0.2341	0.3007	-2.0306
19	21.08	0.00	5.6180	-11.3710	0.0537	-0.1446	-0.0355	0.5417	0.2356	0.3062	-2.0242
20	22.08	-0.00	5.9650	-11.8814	0.0463	-0.2281	-0.0348	0.5441	0.2549	0.2892	-1.9919
21	23.13	0.00	6.3198	-12.3246	0.1117	-0.2714	-0.0309	0.5502	0.2560	0.2942	-1.9502
22	24.14	0.00	6.7070	-12.7444	0.1222	-0.2882	-0.0221	0.5552	0.2615	0.2937	-1.9082
23	25.19	0.00	7.0739	-13.0847	0.1376	-0.3114	-0.0181	0.5419	0.2630	0.2789	-1.8497
24	26.22	0.00	7.4576	-13.3731	0.1455	-0.3309	-0.0190	0.5247	0.2713	0.2534	-1.7932
25	27.26	0.00	7.8317	-13.6476	0.1785	-0.4122	-0.0268	0.5003	0.2769	0.2233	-1.7426
26	27.29	-0.00	7.8800	-13.6343	0.1593	-0.3435	-0.0310	0.5114	0.2660	0.2454	-1.7302
27	28.33	-0.00	8.2813	-13.7628	0.1758	-0.3705	-0.0386	0.4833	0.2742	0.2091	-1.6619
28	29.40	-0.01	8.7259	-13.8951	0.1942	-0.3814	-0.0367	0.4560	0.2771	0.1789	-1.5924
29	30.47	-0.00	9.0861	-13.9931	0.2904	-0.5489	-0.0039	0.4291	0.2842	0.1448	-1.5461
30	20.05	-0.00	5.2639	-10.8756	0.0164	-0.0574	-0.0296	0.4921	0.2600	0.2322	-2.0661
31	10.01	-0.00	2.1162	-4.3515	-0.0067	0.0430	-0.0302	0.3523	0.1894	0.1629	-2.0563
32	-0.00	0.00	0.0358	-0.1136	-0.0169	0.0335	-0.0145	0.2770	0.1166	0.1604	-3.1698

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(6T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 160 1.10 2.3 0.0 B4=0F31 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	0.00	-0.00	0.0159	-0.0267	-0.0169	0.0562	-0.0139	0.4924	0.2223	0.2701	-1.6792
3	2.02	-0.00	0.2991	-0.4262	-0.0193	0.0717	-0.0180	0.4966	0.2052	0.2914	-1.4248
4	2.02	-0.00	0.2981	-0.4250	-0.0180	0.0674	-0.0163	0.4957	0.1962	0.2995	-1.4256
5	2.02	-0.00	0.2966	-0.4364	-0.0219	0.0868	-0.0168	0.4909	0.1877	0.3032	-1.4714
6	4.04	-0.00	0.6536	-1.0728	-0.0149	0.0683	-0.0200	0.5033	0.1799	0.3234	-1.6414
7	6.01	-0.01	1.0624	-1.9232	-0.0200	0.0960	-0.0212	0.5295	0.1790	0.3505	-1.8102
8	6.01	-0.00	1.0683	-1.9252	-0.0130	0.0668	-0.0230	0.5251	0.1951	0.3299	-1.8022
9	8.02	-0.01	1.5434	-2.9661	-0.0154	0.0815	-0.0301	0.5557	0.2128	0.3429	-1.9218
10	10.01	-0.01	2.0657	-4.1512	-0.0082	0.0662	-0.0271	0.5858	0.2239	0.3619	-2.0096
11	12.02	-0.00	2.6061	-5.3082	-0.0039	0.0468	-0.0316	0.6118	0.2369	0.3748	-2.0368
12	14.02	-0.00	3.1707	-6.4381	-0.0016	0.0098	-0.0276	0.6358	0.2455	0.3903	-2.0305
13	16.05	0.00	3.7666	-7.5580	-0.0031	-0.0139	-0.0193	0.6717	0.2572	0.4145	-2.0066
14	17.04	0.00	4.0662	-8.0987	-0.0057	-0.0220	-0.0137	0.6824	0.2721	0.4103	-1.9917
15	18.06	0.00	4.3832	-8.6209	-0.0083	-0.0125	-0.0183	0.6984	0.2756	0.4227	-1.9668
16	19.07	0.00	4.7036	-9.1272	-0.0220	0.0204	-0.0154	0.7112	0.2849	0.4263	-1.9405
17	20.13	-0.00	5.0390	-9.6111	-0.0022	-0.0090	-0.0217	0.7214	0.2937	0.4277	-1.9074
18	21.14	-0.00	5.3808	-10.0634	0.0205	-0.0423	-0.0237	0.7233	0.2983	0.4251	-1.8702
19	22.17	-0.01	5.7578	-10.4957	0.0386	-0.0474	-0.0329	0.7130	0.2992	0.4138	-1.8229
20	23.22	-0.01	6.1531	-10.8842	0.0476	-0.0398	-0.0451	0.7057	0.3022	0.4035	-1.7689
21	24.25	-0.01	6.5329	-11.2388	0.0433	-0.0246	-0.0502	0.6995	0.3065	0.3930	-1.7203
22	25.30	-0.01	6.9274	-11.5856	0.0219	0.0182	-0.0477	0.6945	0.3078	0.3867	-1.6724
23	26.34	-0.00	7.3157	-11.9117	0.0878	-0.1569	-0.0234	0.6889	0.3140	0.3750	-1.6282
24	27.39	-0.00	7.6830	-12.2162	0.0891	-0.1806	-0.0200	0.6863	0.3212	0.3651	-1.5893
25	28.43	-0.00	8.0932	-12.4939	0.1111	-0.2266	-0.0198	0.6790	0.3218	0.3571	-1.5437
26	29.50	-0.00	8.4715	-12.7012	0.1285	-0.2708	-0.0137	0.6674	0.3284	0.3390	-1.4993
27	30.55	0.00	8.8704	-12.9623	0.2482	-0.5305	0.0171	0.6619	0.3383	0.3236	-1.4613
28	20.11	-0.00	5.0345	-9.6640	-0.0032	0.0200	-0.0169	0.6829	0.3287	0.3542	-1.9195
29	10.03	-0.01	2.0909	-4.2512	-0.0145	0.0954	-0.0250	0.5641	0.2999	0.2642	-2.0332
30	10.03	-0.01	2.0732	-4.2152	-0.0163	0.0975	-0.0248	0.5694	0.2595	0.3099	-2.0332
31	-0.00	-0.00	0.0115	-0.0412	-0.0184	0.0626	-0.0062	0.4816	0.1921	0.2895	-3.5862

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 161 1.20 2.3 0.0 84WOF31 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	0.00	-0.00	-0.0108	0.0663	-0.0048	0.0154	-0.0080	0.4987	0.1944	0.3044	-6.1241
2	2.01	-0.00	0.2841	-0.3551	-0.0045	0.0209	-0.0082	0.5045	0.1855	0.3190	-1.2498
3	4.02	-0.00	0.6355	-0.9924	-0.0044	0.0258	-0.0123	0.5118	0.1866	0.3252	-1.5615
4	6.04	-0.00	1.0540	-1.8675	-0.0005	0.0163	-0.0165	0.5350	0.1930	0.3420	-1.7651
5	8.03	-0.00	1.5305	-2.8784	-0.0013	0.0246	-0.0176	0.5638	0.2079	0.3560	-1.8887
6	8.03	-0.00	1.5371	-2.8927	0.0012	0.0233	-0.0181	0.5645	0.2214	0.3430	-1.8819
7	10.05	-0.00	2.0480	-3.9626	0.0090	-0.0003	-0.0168	0.5914	0.2244	0.3670	-1.9349
8	12.03	-0.00	2.5772	-5.0225	0.0092	-0.0143	-0.0212	0.6098	0.2321	0.3777	-1.9488
9	14.04	-0.00	3.1291	-6.0844	0.0154	-0.0384	-0.0216	0.6324	0.2396	0.3927	-1.9444
10	16.10	0.00	3.7272	-7.1204	0.0209	-0.0770	-0.0181	0.6538	0.2430	0.4108	-1.9184
11	17.10	0.00	4.0303	-7.5868	0.0222	-0.0831	-0.0143	0.6671	0.2521	0.4150	-1.8825
12	18.14	0.00	4.3581	-8.0324	0.0209	-0.0733	-0.0188	0.6794	0.2583	0.4211	-1.8431
13	19.14	0.00	4.7031	-8.4477	0.0149	-0.0595	-0.0219	0.6856	0.2636	0.4219	-1.7962
14	20.17	-0.00	5.0574	-8.8116	0.0185	-0.0510	-0.0307	0.6851	0.2673	0.4178	-1.7423
15	21.24	-0.00	5.4490	-9.2244	0.0367	-0.0765	-0.0329	0.6865	0.2759	0.4106	-1.6939
16	22.28	-0.00	5.9433	-9.5738	0.0503	-0.0887	-0.0308	0.6807	0.2759	0.4047	-1.6384
17	23.31	-0.00	6.2081	-9.9006	0.0680	-0.1385	-0.0278	0.6748	0.2802	0.3946	-1.5948
18	24.37	-0.00	6.5509	-10.1756	0.0963	-0.1953	-0.0219	0.6676	0.2833	0.3843	-1.5533
19	25.42	-0.00	6.9772	-10.5178	0.1252	-0.2489	-0.0174	0.6649	0.2847	0.3802	-1.5074
20	26.45	-0.00	7.3849	-10.8571	0.1600	-0.3182	-0.0104	0.6647	0.2909	0.3738	-1.4702
21	27.52	-0.00	7.7972	-11.1860	0.1863	-0.3812	-0.0008	0.6638	0.2968	0.3670	-1.4346
22	28.57	-0.00	8.2027	-11.4744	0.1857	-0.3697	-0.0033	0.6584	0.2993	0.3591	-1.3989
23	29.61	-0.00	8.5964	-11.7723	0.2071	-0.4055	0.0065	0.6595	0.3103	0.3492	-1.3694
24	30.66	-0.00	8.9844	-12.0491	0.2331	-0.4561	0.0064	0.6591	0.3194	0.3397	-1.3411
25	20.20	-0.00	5.0874	-8.8907	0.0179	-0.0403	-0.0264	0.6677	0.3135	0.3542	-1.7476
26	10.33	-0.00	2.0512	-4.0164	0.0026	0.0216	-0.0164	0.5744	0.2822	0.2922	-1.9581
27	0.00	-0.00	0.0012	0.0210	-0.0075	0.0175	-0.0010	0.4975	0.2133	0.2842	18.4869

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 162 1.30 2.3			0.0	840F31	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	KCP
1	0.01	0.00	0.0030	0.0476	0.0009	-0.0059	0.0001	0.4830	0.1828	0.3002	16.0282
2	2.04	-0.00	0.2926	-0.3524	0.0022	0.0141	-0.0013	0.4870	0.1882	0.2988	-1.2064
3	4.02	-0.00	0.6435	-0.9737	-0.0041	0.0284	-0.0054	0.4933	0.1885	0.3048	-1.5132
4	6.03	-0.00	1.0690	-1.8244	-0.0010	0.0347	-0.0080	0.5162	0.1902	0.3240	-1.7078
5	8.02	-0.00	1.5027	-2.7112	0.0050	0.0289	-0.0134	0.5449	0.1964	0.3485	-1.8042
6	10.05	0.00	2.0090	-3.7040	-0.0135	0.0187	-0.0152	0.5646	0.2048	0.3598	-1.8437
7	12.07	-0.00	2.5196	-4.7186	0.0090	-0.0063	-0.0167	0.5860	0.2145	0.3716	-1.8728
8	14.10	-0.00	3.0255	-5.6194	0.0155	-0.0332	-0.0159	0.6063	0.2226	0.3837	-1.8974
9	16.12	-0.00	3.6527	-6.5483	0.0286	-0.0679	-0.0139	0.6208	0.2313	0.3895	-1.8864
10	17.14	0.00	3.9714	-7.0172	0.0272	-0.0758	-0.0131	0.6285	0.2393	0.3892	-1.7669
11	18.16	0.00	4.3236	-7.4043	0.0224	-0.0669	-0.0123	0.6314	0.2437	0.3877	-1.7125
12	19.21	-0.00	4.6781	-7.7507	0.0260	-0.0601	-0.0154	0.6334	0.2492	0.3842	-1.6548
13	20.27	-0.00	5.0470	-8.1006	0.0297	-0.0581	-0.0187	0.6366	0.2532	0.3834	-1.6050
14	20.27	-0.00	5.0676	-8.1289	0.0233	-0.0473	-0.0174	0.6324	0.2542	0.3782	-1.6041
15	21.31	-0.00	5.4183	-8.4239	0.0314	-0.0643	-0.0208	0.6353	0.2570	0.3783	-1.5547
16	22.36	-0.00	5.7900	-8.7489	0.0441	-0.0862	-0.0217	0.6357	0.2632	0.3725	-1.5110
17	23.43	-0.00	6.1640	-9.0661	0.0646	-0.1184	-0.0227	0.6387	0.2695	0.3693	-1.4699
18	24.46	-0.00	6.5433	-9.3728	0.0785	-0.1563	-0.0200	0.6407	0.2749	0.3657	-1.4324
19	25.51	-0.00	6.9295	-9.6590	0.1214	-0.2441	-0.0095	0.6412	0.2806	0.3605	-1.3939
20	25.51	-0.00	6.9093	-9.6236	0.1137	-0.2264	-0.0094	0.6378	0.2861	0.3516	-1.3928
21	26.56	0.00	7.3206	-9.9233	0.1523	-0.3141	0.0022	0.6417	0.2902	0.3515	-1.3555
22	27.62	0.00	7.7380	-10.2349	0.1778	-0.3847	0.0152	0.6491	0.2970	0.3521	-1.3227
23	27.63	0.00	7.7409	-10.2226	0.1620	-0.3615	0.0153	0.6452	0.3091	0.3361	-1.3206
24	28.67	-0.00	8.1128	-10.4909	0.1659	-0.3294	0.0078	0.6522	0.3123	0.3399	-1.2931
25	29.72	-0.00	8.5186	-10.8268	0.1566	-0.2820	0.0005	0.6644	0.3205	0.3439	-1.2710
26	29.72	-0.00	8.5205	-10.8192	0.1566	-0.2768	0.0005	0.6619	0.3260	0.3359	-1.2698
27	30.77	-0.01	8.9379	-11.1876	0.1395	-0.2259	-0.0042	0.6673	0.3360	0.3312	-1.2517
29	20.27	-0.00	5.0609	-8.1125	0.0207	-0.0369	-0.0132	0.6208	0.3009	0.3198	-1.6030
30	10.06	-0.01	2.0012	-3.7446	0.0136	0.0267	-0.0106	0.5531	0.2755	0.2775	-1.8712
31	0.00	0.00	0.0010	0.0434	-0.0034	0.0071	0.0042	0.4840	0.2398	0.2443	44.8934

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH FX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 166 0.60 2.3			0.0	RAWOF11	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-0.00	0.00	0.0049	-0.0150	-0.0061	0.0109	-0.0113	0.2542	0.0070	0.1672	-3.1973
3	-0.00	0.00	0.0023	-0.0119	-0.0099	0.0164	-0.0113	0.2541	0.0944	0.1597	-5.1566
4	1.99	-0.00	0.2193	-0.3096	-0.0089	0.0700	-0.0134	0.2579	0.0948	0.1631	-1.4116
5	4.04	-0.00	0.4468	-0.7056	-0.0063	0.0213	-0.0137	0.2597	0.1195	0.1402	-1.5114
6	4.04	-0.00	0.4670	-0.7146	-0.0075	0.0279	-0.0136	0.2595	0.1090	0.1505	-1.5301
7	6.03	-0.00	0.7546	-1.2357	-0.0091	0.0405	-0.0154	0.2732	0.1047	0.1685	-1.6375
9	8.06	-0.00	1.0714	-1.4538	-0.0102	0.0543	-0.0170	0.2898	0.1256	0.1642	-1.8236
10	10.01	-0.00	1.3464	-2.6412	-0.0069	0.0541	-0.0152	0.3088	0.1368	0.1720	-1.8914
11	12.06	-0.00	1.7332	-3.3119	-0.0039	0.0272	-0.0138	0.3323	0.1464	0.1859	-1.9100
12	14.02	-0.00	2.1348	-4.1662	-0.0118	0.0448	-0.0174	0.3474	0.1618	0.1855	-1.9518
13	16.07	-0.00	2.4821	-4.6669	-0.0333	0.0905	-0.0102	0.3472	0.1753	0.1719	-1.8882
14	18.08	-0.00	2.7404	-4.8125	-0.0345	0.0641	-0.0203	0.3465	0.2115	0.1350	-1.7561
16	19.09	0.00	2.4846	-4.8823	-0.0233	0.0166	-0.0267	0.3517	0.2276	0.1240	-1.6902
17	20.12	0.00	3.0448	-4.9566	-0.0145	-0.0279	-0.0349	0.3586	0.2572	0.1014	-1.6279
18	21.15	0.00	3.1844	-4.9912	-0.0007	-0.0544	-0.0391	0.3606	0.2637	0.0969	-1.5674
19	22.14	0.00	3.3177	-5.0178	0.0181	-0.0866	-0.0434	0.3653	0.2779	0.0874	-1.5124
20	23.21	-0.00	3.5024	-5.0677	0.0351	-0.0960	-0.0405	0.3723	0.2846	0.0877	-1.4469
21	24.20	-0.00	3.6534	-5.0730	0.0440	-0.1345	-0.0542	0.3817	0.2987	0.0829	-1.3886
22	25.24	-0.01	3.8115	-5.0272	-0.0161	0.1276	-0.0054	0.3898	0.3147	0.0751	-1.3190
23	26.25	-0.01	3.9927	-5.0480	-0.0144	0.2615	0.0225	0.3951	0.3334	0.0618	-1.2768
24	27.28	-0.02	4.2269	-5.3439	0.0700	0.2333	0.0965	0.3996	0.3611	0.0385	-1.2643
25	28.29	-0.01	4.4357	-5.4725	0.1339	0.0576	0.0943	0.3992	0.3740	0.0252	-1.2337
26	29.33	-0.01	4.6771	-5.6476	0.2361	-0.2055	0.1110	0.3983	0.3923	0.0060	-1.2075
27	29.32	-0.01	4.6681	-5.6436	0.2479	-0.2280	0.1186	0.3973	0.4302	-0.0329	-1.2197
28	30.36	-0.00	4.8971	-5.8307	0.3183	-0.4263	0.1213	0.3912	0.4249	-0.0336	-1.1906
29	20.11	0.00	3.0240	-4.9389	-0.0162	-0.0339	-0.0351	0.3552	0.3219	0.0333	-1.6306
30	10.03	-0.00	1.4249	-2.8057	-0.0084	0.0397	-0.0151	0.2769	0.1827	0.0942	-1.9691
31	-0.01	0.00	0.0213	-0.1281	-0.0110	0.0065	-0.0113	0.2370	0.1208	0.1162	-4.0065



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEEDC)  
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PROPULSION WIND TUNNEL FACILITY (PWT)  
MARTIN MISSILE TAIL EFFECTS DATA

AERODYNAMIC WIND TUNNEL (AWT)

TEST	PART	MACH	RX10-6	PM1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
1	167	0.65	2.3	0.0	H4WOF11	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAR	CAF	ICP
1	-0.00	0.00	0.0126	-0.0813	-0.0106	0.0086	-0.0126	0.2447	0.0979	0.1468	-6.4352
2	2.02	0.00	0.7351	-0.3963	-0.0082	0.0101	-0.0128	0.7485	0.0986	0.1499	-1.6858
3	4.00	0.00	0.4777	-0.7796	-0.0068	0.0107	-0.0131	0.2524	0.1046	0.1478	-1.6319
4	6.05	-0.00	0.7623	-1.3224	-0.0107	0.0352	-0.0148	0.7641	0.1132	0.1509	-1.7354
5	8.05	-0.00	1.0807	-2.0014	-0.0011	0.0081	-0.0168	0.2816	0.1246	0.1570	-1.8519
6	8.04	-0.00	1.0830	-2.0314	-0.0079	0.0449	-0.0163	0.2819	0.1227	0.1592	-1.8757
7	10.01	-0.00	1.4201	-2.7465	-0.0112	0.0555	-0.0145	0.3036	0.1378	0.1658	-1.9340
8	12.04	-0.00	1.7376	-3.3466	-0.0040	0.0264	-0.0132	0.3270	0.1463	0.1806	-1.9260
9	14.02	-0.00	2.1289	-4.1460	-0.0092	0.0337	-0.0151	0.3444	0.1470	0.1773	-1.9475
10	16.05	-0.00	2.4464	-4.5665	-0.0308	0.0893	-0.0080	0.3511	0.1781	0.1731	-1.8666
11	17.04	-0.00	2.5969	-4.6473	-0.0330	0.0874	-0.0119	0.3556	0.1841	0.1715	-1.8088
12	18.09	-0.00	2.7583	-4.8073	-0.0366	0.0628	-0.0197	0.3608	0.1973	0.1634	-1.7429
13	19.08	0.00	2.9056	-4.8960	-0.0210	0.0163	-0.0240	0.3658	0.2225	0.1433	-1.6859
14	20.15	0.00	3.0695	-4.9795	-0.0125	-0.0234	-0.0320	0.3740	0.2425	0.1315	-1.6223
15	20.15	0.00	3.0565	-4.9618	-0.0254	-0.0211	-0.0337	0.3749	0.2555	0.1194	-1.6234
16	21.13	0.00	3.1977	-5.0023	-0.0002	-0.0419	-0.0288	0.3771	0.2703	0.1067	-1.5643
17	22.16	-0.00	3.3696	-5.0637	0.0098	-0.0442	-0.0293	0.3824	0.2872	0.0952	-1.5020
18	23.20	-0.00	3.5328	-5.0912	-0.0135	0.0651	-0.0149	0.3850	0.3032	0.0818	-1.4411
19	24.24	-0.00	3.7262	-5.1323	0.0569	-0.0953	-0.0398	0.4003	0.3090	0.0912	-1.3774
20	25.20	-0.02	3.8460	-5.0547	-0.0289	0.3130	0.0259	0.4030	0.3252	0.0778	-1.3143
21	26.26	-0.01	4.0617	-5.1186	-0.0068	0.2515	0.0281	0.4122	0.3485	0.0637	-1.2602
22	27.31	-0.02	4.3104	-5.3696	0.0870	0.2220	0.0963	0.4144	0.3709	0.0434	-1.2457
23	28.30	-0.02	4.5340	-5.5663	0.2230	-0.0362	0.1316	0.4209	0.3946	0.0263	-1.2277
24	29.36	-0.01	4.7508	-5.6168	0.2302	-0.1427	0.1075	0.4101	0.4086	0.0015	-1.1823
25	30.39	-0.01	4.9916	-5.7581	0.3644	-0.4253	0.1304	0.4023	0.4208	-0.0185	-1.1536
26	20.12	-0.00	3.0509	-4.9567	-0.0061	-0.0037	-0.0244	0.3726	0.3374	0.0352	-1.6247
27	10.03	-0.00	1.4435	-2.8724	-0.0109	0.0526	-0.0145	0.2833	0.1923	0.0910	-1.9899
28	-0.01	0.00	0.0230	-0.1348	-0.0080	0.0047	-0.0108	0.2380	0.1190	0.1190	-5.8698

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART MACH RX10-6			PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 168 0.92 2.3			0.0	W4W0F11	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CM	CLM	CY	CLN	CLL	CA	CAB	CAF	ACP
1	-0.00	0.00	0.0146	-0.0901	-0.0074	0.0088	-0.0104	0.2496	0.0927	0.1569	-6.1674
2	2.02	0.00	0.2412	-0.4031	-0.0049	0.0128	-0.0123	0.2522	0.1043	0.1480	-1.6712
3	4.00	-0.00	0.4880	-0.8236	-0.0061	0.0154	-0.0141	0.2563	0.1085	0.1477	-1.6877
4	6.00	-0.00	0.7734	-1.3805	-0.0095	0.0380	-0.0123	0.2657	0.0999	0.1658	-1.7858
5	8.01	-0.00	1.1154	-2.1009	-0.0089	0.0528	-0.0172	0.2856	0.1210	0.1646	-1.8835
6	10.02	-0.00	1.4648	-2.8594	-0.0126	0.0693	-0.0137	0.2982	0.1302	0.1679	-1.9454
7	12.04	-0.00	1.7614	-3.3677	-0.0119	0.0490	-0.0092	0.3436	0.1427	0.2009	-1.9119
9	14.01	-0.00	2.1316	-4.1067	-0.0110	0.0395	-0.0160	0.3616	0.1839	0.1777	-1.9266
10	16.05	-0.00	2.4841	-4.6847	-0.0162	0.0260	-0.0182	0.3789	0.1950	0.1839	-1.8821
11	17.08	-0.00	2.6827	-4.9611	-0.0165	0.0172	-0.0235	0.3930	0.2067	0.1863	-1.8493
12	18.11	0.00	2.8393	-5.1050	-0.0239	0.0193	-0.0271	0.3949	0.2199	0.1751	-1.7988
13	19.13	0.00	3.0100	-5.2173	-0.0192	-0.0020	-0.0329	0.4014	0.2441	0.1572	-1.7333
14	20.09	0.00	3.1663	-5.2567	-0.0079	-0.0309	-0.0319	0.4052	0.2617	0.1435	-1.6708
15	21.14	-0.00	3.3493	-5.3840	0.0103	-0.0435	-0.0274	0.4143	0.2788	0.1355	-1.6075
16	22.21	-0.01	3.5228	-5.4025	0.0000	0.1209	-0.0038	0.4159	0.3003	0.1155	-1.5336
17	22.21	0.00	3.5334	-5.4447	0.0164	-0.0623	-0.0248	0.4163	0.3117	0.1045	-1.5409
18	23.18	-0.01	3.7196	-5.4570	-0.0214	0.2614	0.0226	0.4265	0.3183	0.1081	-1.4671
19	24.20	-0.03	3.8933	-5.4270	0.0400	0.3495	0.0464	0.4332	0.3258	0.1074	-1.3939
20	25.22	-0.02	4.0806	-5.4751	-0.0121	0.4754	0.0761	0.4398	0.3462	0.0936	-1.3417
21	25.23	-0.02	4.0923	-5.4607	-0.0173	0.4361	0.0819	0.4394	0.3489	0.0905	-1.3344
22	26.29	-0.02	4.3366	-5.4570	0.0469	0.1927	0.0110	0.4419	0.3687	0.0812	-1.2583
23	27.36	-0.02	4.5366	-5.3711	0.0743	0.2052	0.0632	0.4377	0.3811	0.0566	-1.1839
24	28.42	-0.01	4.7682	-5.2461	0.1489	-0.1526	0.0202	0.4530	0.3853	0.0676	-1.1002
25	29.47	-0.00	5.0497	-5.1379	0.1411	-0.2428	-0.0140	0.4523	0.4311	0.0212	-1.0175
26	30.51	-0.01	5.3670	-5.0324	0.2404	-0.3498	0.0072	0.4470	0.4453	0.0017	-0.9412
27	20.13	-0.00	3.1900	-5.3455	-0.0064	0.0620	-0.0174	0.4102	0.3671	0.0432	-1.6757
30	10.02	-0.00	1.4811	-2.9477	-0.0135	0.0681	-0.0152	0.2817	0.1560	0.1237	-1.9902
31	-0.01	0.00	0.0242	-0.1359	-0.0088	0.0061	-0.0087	0.2449	0.1291	0.1158	-5.6089

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 169 0.6 2.3 0.0 84DF11 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-0.01	0.00	0.0190	-0.1106	-0.0098	0.0078	-0.0086	0.2518	0.0820	0.1698	-5.8219
2	2.02	0.00	0.2344	-0.4153	-0.0075	0.0091	-0.0121	0.2534	0.0977	0.1557	-1.7351
3	4.01	0.00	0.4402	-0.8443	-0.0081	0.0142	-0.0106	0.2540	0.1041	0.1510	-1.7230
4	6.03	-0.00	0.7679	-1.4417	-0.0090	0.0387	-0.0137	0.2672	0.1134	0.1539	-1.8299
5	8.02	-0.00	1.1322	-2.1441	-0.0104	0.0556	-0.0151	0.2851	0.1145	0.1706	-1.9379
6	10.02	-0.00	1.4910	-2.9675	-0.0141	0.0702	-0.0134	0.3018	0.1292	0.1726	-1.9903
9	12.03	-0.01	1.8556	-3.6877	-0.0230	0.1122	-0.0065	0.3092	0.1605	0.1467	-1.9863
10	14.02	-0.00	2.1428	-4.1481	-0.0067	0.0267	-0.0158	0.3725	0.1736	0.1988	-1.9358
11	16.04	0.00	2.5228	-4.6012	-0.0183	0.0209	-0.0211	0.3874	0.1957	0.1917	-1.9031
12	17.05	-0.00	2.7071	-5.0628	-0.0176	0.0263	-0.0230	0.3921	0.2131	0.1791	-1.8762
13	18.07	-0.00	2.9044	-5.3045	-0.0266	0.0346	-0.0281	0.4066	0.2270	0.1796	-1.8264
14	19.10	-0.00	3.0787	-5.4457	-0.0139	0.0271	-0.0286	0.4105	0.2544	0.1561	-1.7688
15	20.12	-0.00	3.2429	-5.5214	0.0003	0.0393	-0.0222	0.4145	0.2730	0.1415	-1.7026
16	21.11	-0.01	3.4418	-5.6575	0.0138	0.0526	-0.0189	0.4233	0.2800	0.1434	-1.6438
17	22.18	-0.01	3.6198	-5.8347	0.0240	0.0834	-0.0251	0.4258	0.3017	0.1241	-1.5566
18	23.18	-0.01	3.7679	-5.6189	0.0004	0.1843	0.0184	0.4253	0.3137	0.1116	-1.4828
19	24.25	-0.02	4.0004	-5.5897	-0.0248	0.3437	0.0448	0.4349	0.3215	0.1135	-1.3973
20	25.30	-0.02	4.2169	-5.5105	-0.0163	0.2970	0.1285	0.4348	0.3403	0.0945	-1.3068
21	26.31	-0.02	4.4690	-5.4727	0.0161	0.3425	0.0524	0.4401	0.3538	0.0863	-1.2246
22	27.37	-0.02	4.6463	-5.3620	0.0434	0.2485	0.0646	0.4386	0.3718	0.0668	-1.1496
23	28.46	-0.01	4.9704	-5.0688	0.1506	-0.1371	0.0168	0.4580	0.3798	0.0781	-1.0198
24	29.50	-0.00	5.2798	-4.9376	0.1286	-0.2524	-0.0192	0.4517	0.4025	0.0492	-0.9352
25	30.57	-0.01	5.5395	-4.8172	0.1812	-0.2405	-0.0201	0.4486	0.4308	0.0178	-0.8696
26	20.12	-0.00	3.3296	-5.7521	-0.0157	0.0791	-0.0135	0.4270	0.3486	0.0785	-1.7276
27	20.12	-0.01	3.2704	-5.5964	0.0033	0.0892	-0.0068	0.4097	0.3498	0.0599	-1.7114
28	10.71	-0.00	1.5122	-3.0959	-0.0123	0.0687	-0.0147	0.2843	0.2209	0.0633	-2.8473
29	-0.01	0.00	0.0169	-0.1274	-0.0076	0.0044	-0.0085	0.2455	0.1164	0.1291	-7.5221

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6			PHI CONF		L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 170 0.96 2.3			0.0 0.0		0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CM	CLM	CV	CLM	CLL	CA	CAB	CAP	XCP
1	-0.01	0.00	0.0164	-0.1017	-0.0086	0.0080	-0.0101	0.2622	0.0894	0.1739	-6.1987
2	2.03	0.00	0.2448	-0.4443	-0.0095	0.0062	-0.0120	0.2642	0.1049	0.1593	-1.7855
3	3.99	-0.00	0.5055	-0.4196	-0.0032	0.0067	-0.0104	0.2719	0.1037	0.1681	-1.8190
4	6.01	-0.00	0.8283	-1.6362	-0.0037	0.0239	-0.0134	0.2861	0.1038	0.1803	-1.9754
5	8.00	-0.00	1.1690	-2.3866	-0.0096	0.0435	-0.0149	0.2969	0.1215	0.1754	-2.0416
6	10.03	-0.00	1.5423	-3.1864	-0.0106	0.0578	-0.0147	0.3275	0.1262	0.2012	-2.0664
7	12.04	-0.00	1.8850	-3.8458	-0.0187	0.0945	-0.0081	0.3315	0.1429	0.1886	-2.0370
8	14.04	-0.00	2.1507	-4.1275	-0.0050	0.0205	-0.0157	0.3967	0.1665	0.2302	-1.9122
9	16.06	-0.00	2.5513	-4.8709	-0.0084	0.0314	-0.0175	0.4087	0.2081	0.2006	-1.9092
10	17.07	-0.00	2.7596	-5.1870	-0.0128	0.0479	-0.0192	0.4112	0.2264	0.1849	-1.8796
11	18.08	-0.00	2.9679	-5.4856	-0.0138	0.0656	-0.0225	0.4202	0.2522	0.1680	-1.8483
12	19.07	-0.00	3.1753	-5.7061	-0.0172	0.0660	-0.0261	0.4303	0.2659	0.1644	-1.7978
13	20.09	-0.01	3.3787	-5.8858	0.0017	0.0726	-0.0149	0.4350	0.2808	0.1541	-1.7420
14	21.16	-0.01	3.5491	-5.9125	-0.0035	0.0980	-0.0072	0.4325	0.2931	0.1394	-1.6659
15	22.16	-0.01	3.7536	-5.9791	0.0050	0.0741	-0.0080	0.4380	0.3070	0.1310	-1.5938
16	23.20	-0.01	3.9375	-5.9248	-0.0083	0.1920	0.0213	0.4327	0.3140	0.1187	-1.5068
17	24.27	-0.01	4.1517	-5.8743	-0.0067	0.1263	-0.0062	0.4330	0.3233	0.1097	-1.4149
18	25.30	-0.01	4.4425	-5.4421	-0.0241	0.2423	0.0285	0.4339	0.3257	0.1082	-1.3151
19	26.38	-0.02	4.7025	-5.6344	-0.0113	0.2931	0.0385	0.4341	0.3436	0.0904	-1.1982
20	27.42	-0.02	4.9182	-5.4453	0.0114	0.3740	0.0651	0.4437	0.3578	0.0860	-1.1072
21	28.51	-0.01	5.1957	-5.1891	0.0953	0.0102	0.0119	0.4494	0.3744	0.0750	-0.9987
22	29.57	-0.01	5.4581	-4.9607	0.1953	-0.3171	-0.0345	0.4531	0.3925	0.0607	-0.9089
23	30.63	-0.01	5.7743	-4.7096	0.2011	-0.3526	-0.0211	0.4576	0.4210	0.0367	-0.8156
24	20.11	-0.01	3.3667	-5.9149	-0.0094	0.0708	-0.0213	0.4302	0.3428	0.0874	-1.7569
25	10.02	-0.00	1.5547	-3.2879	-0.0070	0.0518	-0.0178	0.3103	0.2178	0.0924	-2.1148
26	-0.01	0.00	0.0213	-0.1287	-0.0041	0.0013	-0.0085	0.2566	0.1318	0.1248	-6.0459

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART			MACH	PH1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
1			171 0.98 2.3	0.0	5400F11	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	RCP
1	-0.00	0.00	0.0160	-0.0918	-0.0095	0.0058	-0.0084	0.2928	0.1081	0.1848	-5.7475
2	2.02	-0.00	0.2542	-0.4771	-0.0058	0.0121	-0.0101	0.2944	0.1086	0.1862	-1.8768
3	4.03	-0.00	0.5379	-1.0370	-0.0036	0.0107	-0.0118	0.3001	0.1138	0.1862	-1.9277
4	6.04	-0.00	0.8523	-1.7215	-0.0064	0.0179	-0.0148	0.3183	0.1170	0.2013	-2.0198
5	7.99	-0.00	1.1952	-2.4844	-0.0023	0.0300	-0.0162	0.3379	0.1207	0.2172	-2.0828
6	10.01	-0.00	1.5552	-3.2483	-0.0033	0.0403	-0.0145	0.3604	0.1419	0.2185	-2.0873
7	12.03	-0.00	1.9363	-3.9780	-0.0054	0.0509	-0.0146	0.3811	0.1529	0.2281	-2.0545
8	14.03	-0.00	2.1771	-4.1473	-0.0143	0.0396	-0.0092	0.4174	0.1841	0.2333	-1.9049
9	16.02	-0.00	2.5817	-4.8691	-0.0215	0.0578	-0.0155	0.4412	0.2155	0.2257	-1.8937
10	17.05	-0.00	2.8168	-5.2825	-0.0175	0.0636	-0.0187	0.4549	0.2428	0.2120	-1.8754
11	18.09	-0.00	3.0535	-5.6670	-0.0392	0.0940	-0.0236	0.4574	0.2643	0.1930	-1.8559
12	19.12	-0.00	3.2516	-5.8898	-0.0142	0.0843	-0.0240	0.4597	0.2746	0.1850	-1.8114
13	20.10	-0.01	3.4746	-6.1164	-0.0055	0.0645	-0.0212	0.4579	0.2916	0.1663	-1.7603
14	21.13	-0.01	3.7001	-6.2601	0.0054	0.0422	-0.0185	0.4535	0.3051	0.1484	-1.6919
15	21.13	-0.01	3.7188	-6.3015	0.0124	0.0534	-0.0137	0.4582	0.2978	0.1605	-1.6945
16	22.17	-0.01	3.9755	-6.4036	0.0247	0.0679	0.0032	0.4546	0.3052	0.1495	-1.6108
17	23.23	-0.01	4.2027	-6.4128	0.0323	0.0978	0.0279	0.4498	0.3103	0.1395	-1.5259
18	24.24	-0.01	4.4697	-6.4580	0.0370	0.1081	0.0366	0.4440	0.3185	0.1255	-1.4448
19	25.28	-0.01	4.6503	-6.2515	-0.0007	0.1396	0.0131	0.4336	0.3337	0.1000	-1.3443
21	26.37	-0.01	4.9625	-6.2417	0.0214	0.1647	0.0402	0.4376	0.3557	0.0819	-1.2578
22	27.43	-0.02	5.1954	-5.9633	0.0048	0.2978	0.0707	0.4407	0.3561	0.0846	-1.1478
23	28.51	-0.02	5.5071	-5.7768	0.1182	0.1243	0.0490	0.4336	0.3659	0.0677	-1.0498
24	29.57	-0.02	5.7958	-5.4584	0.1724	-0.0555	0.0250	0.4437	0.3779	0.0658	-0.9419
25	30.67	-0.01	6.0674	-5.2137	0.2577	-0.4083	-0.0148	0.4526	0.3962	0.0564	-0.8592
26	20.12	-0.01	3.5140	-6.2248	-0.0080	0.0621	-0.0259	0.4640	0.3521	0.1119	-1.7694
27	10.00	-0.00	1.5988	-3.4528	-0.0070	0.0412	-0.0143	0.3458	0.2528	0.0930	-2.1596
28	-0.01	0.00	0.0209	-0.1337	-0.0117	0.0049	-0.0084	0.2863	0.1519	0.1345	-6.4095

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 172 1.10 2.3			0.0	84W0F11	0.0	0	0	0	0	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-0.00	-0.00	0.0036	-0.0010	-0.0215	0.0551	-0.0091	0.4907	0.1774	0.3133	-16.8862
2	2.04	-0.00	0.2560	-0.4604	-0.0158	0.0534	-0.0079	0.4996	0.1794	0.3201	-1.7986
3	2.04	-0.00	0.2570	-0.4763	-0.0168	0.0622	-0.0093	0.4958	0.1857	0.3101	-1.0530
4	4.04	-0.00	0.5326	-0.9981	-0.0196	0.0784	-0.0092	0.4964	0.1976	0.2988	-1.8739
5	6.01	-0.00	0.8361	-1.6086	-0.0140	0.0649	-0.0123	0.5181	0.1944	0.3237	-1.9193
6	8.01	-0.01	1.1899	-2.3456	-0.0144	0.0810	-0.0121	0.5375	0.2088	0.3287	-2.0133
7	10.01	-0.01	1.5713	-3.1865	-0.0123	0.0819	-0.0135	0.5458	0.2138	0.3320	-2.0292
8	12.05	-0.01	1.9652	-3.9316	-0.0098	0.0750	-0.0108	0.5555	0.2210	0.3345	-2.0006
9	14.04	-0.01	2.3508	-4.5926	-0.0194	0.0964	-0.0065	0.5553	0.2266	0.3286	-1.9536
10	16.09	-0.01	2.6826	-4.6954	-0.0458	0.1785	0.0079	0.5729	0.2336	0.3394	-1.8249
11	17.14	-0.01	2.8829	-5.0672	-0.0397	0.1555	-0.0057	0.5774	0.2469	0.3305	-1.7577
12	18.12	-0.01	3.1112	-5.3747	-0.0425	0.1553	-0.0118	0.5829	0.2633	0.3196	-1.7275
13	19.14	-0.01	3.3513	-5.6720	-0.0470	0.1720	-0.0135	0.5817	0.2729	0.3088	-1.6925
14	20.16	-0.01	3.6273	-5.9273	-0.0251	0.1434	-0.0198	0.5716	0.2655	0.3061	-1.6341
15	21.21	-0.01	3.9230	-6.1793	-0.0103	0.1223	-0.0204	0.5624	0.2777	0.2847	-1.5752
16	22.26	-0.01	4.2336	-6.4299	0.0334	0.0564	-0.0156	0.5559	0.2495	0.2664	-1.5188
17	23.27	-0.01	4.5195	-6.5939	0.0519	0.0131	-0.0095	0.5473	0.2917	0.2556	-1.4590
18	24.34	-0.01	4.8901	-6.7252	0.0498	0.0348	-0.0252	0.5352	0.2867	0.2485	-1.3753
19	25.38	-0.01	5.1933	-6.8396	0.0241	0.0497	-0.0202	0.5313	0.3097	0.2216	-1.3170
20	26.43	-0.01	5.4912	-6.9224	0.0271	0.0596	-0.0113	0.5231	0.3142	0.2088	-1.2607
21	27.50	-0.01	5.8210	-6.9304	0.0235	0.1120	-0.0098	0.5131	0.3136	0.1996	-1.1906
22	28.56	-0.01	6.1578	-6.9187	0.0694	0.0162	0.0037	0.5089	0.3221	0.1868	-1.1236
23	29.66	-0.01	6.4870	-6.8893	0.1213	-0.0899	0.0157	0.5051	0.3320	0.1732	-1.0628
24	30.70	-0.01	6.8151	-6.8594	0.0337	0.0308	-0.0216	0.4999	0.3418	0.1581	-1.0065
25	20.17	-0.01	3.6731	-5.9958	-0.0119	0.1175	-0.0229	0.5719	0.3152	0.2567	-1.6323
26	10.02	-0.00	1.5932	-3.2877	-0.0071	0.0550	-0.0093	0.5301	0.2682	0.2618	-2.0636
27	-0.01	-0.00	0.0040	-0.0792	-0.0176	0.0421	-0.0049	0.4958	0.2060	0.2898	-19.7709

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	PART	MACH	RN10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
1	173	1.20	2.3	0.0	8440F11	0.0	0	0	0	0	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	KCP
1	0.00	0.00	-0.0142	0.0478	-0.0050	-0.0060	-0.0054	0.5010	0.1747	0.3263	-3.3552
2	2.01	0.00	0.2352	-0.3628	-0.0023	-0.0078	-0.0055	0.5046	0.1779	0.3267	-1.5428
3	4.04	0.00	0.5139	-0.8540	-0.0001	-0.0057	-0.0042	0.5104	0.1790	0.3314	-1.6616
4	6.01	0.00	0.8088	-1.4257	0.0042	-0.0104	-0.0057	0.5281	0.1849	0.3431	-1.7627
5	8.04	-0.00	1.1436	-2.0931	0.0057	-0.0121	-0.0058	0.5422	0.1907	0.3515	-1.8303
6	10.04	-0.00	1.5099	-2.7921	0.0123	-0.0124	-0.0045	0.5504	0.2006	0.3497	-1.8492
7	12.07	-0.00	1.8938	-3.4549	0.0099	-0.0101	-0.0061	0.5476	0.2053	0.3423	-1.8243
8	14.10	-0.00	2.2991	-4.0587	0.0095	-0.0017	-0.0050	0.5505	0.2127	0.3377	-1.7653
9	16.12	-0.00	2.7244	-4.5887	0.0008	0.0310	-0.0039	0.5468	0.2138	0.3330	-1.6843
10	17.15	-0.00	2.9545	-4.8259	-0.0130	0.0640	-0.0027	0.5455	0.2167	0.3247	-1.6334
11	18.16	-0.00	3.1640	-4.8742	-0.0121	0.0719	-0.0088	0.5501	0.2193	0.3308	-1.5421
12	19.20	-0.01	3.4392	-5.0419	-0.0171	0.0833	-0.0149	0.5495	0.2259	0.3235	-1.4660
13	20.29	-0.01	3.7437	-5.2260	-0.0092	0.0801	-0.0187	0.5469	0.2358	0.3112	-1.3945
14	21.31	-0.01	4.0510	-5.3954	0.0101	0.0521	-0.0198	0.5426	0.2411	0.3015	-1.3319
15	22.33	-0.01	4.3538	-5.5582	0.0189	0.0393	-0.0181	0.5354	0.2458	0.2895	-1.2766
16	23.44	-0.01	4.7056	-5.7720	0.0452	-0.0164	-0.0114	0.5307	0.2504	0.2802	-1.2266
17	24.47	-0.01	5.0244	-5.9327	0.0758	-0.0739	-0.0046	0.5237	0.2535	0.2703	-1.1808
18	25.50	-0.01	5.3632	-6.0953	0.0864	-0.0957	0.0023	0.5185	0.2566	0.2619	-1.1365
19	26.58	-0.01	5.7365	-6.2403	0.1011	-0.0988	0.0051	0.5170	0.2636	0.2533	-1.0878
20	27.61	-0.01	6.0542	-6.2955	0.1044	-0.0905	0.0078	0.5197	0.2675	0.2522	-1.0399
21	28.69	-0.01	6.3995	-6.3590	0.1194	-0.0926	0.0064	0.5156	0.2841	0.2315	-0.9937
22	29.76	-0.01	6.7134	-6.4207	0.1565	-0.1898	0.0167	0.5151	0.2913	0.2237	-0.9564
23	30.84	-0.01	7.0549	-6.4698	0.2034	-0.2679	0.0160	0.5196	0.3071	0.2124	-0.9171
24	30.84	-0.01	7.0657	-6.4696	0.1979	-0.2646	0.0173	0.5200	0.3139	0.2061	-0.9156
25	20.27	-0.01	3.7330	-5.1899	-0.0043	0.0687	-0.0160	0.5461	0.2720	0.2741	-1.3903
26	10.03	-0.00	1.5157	-2.8431	0.0095	-0.0185	-0.0031	0.5370	0.2369	0.3001	-1.8757
27	-0.00	0.00	-0.0157	0.0098	-0.0022	-0.0153	-0.0012	0.4964	0.2077	0.2887	-0.6252

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART MACH RX10-6 PHI CONF L UEL1 DEL2 UEL3 DEL4 TRANSITION  
 1 174 1.30 2.3 0.0 040011 0.0 0 0 0 0 UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	ACP
1	0.00	0.00	-0.0274	0.6824	-0.0031	-0.0130	0.0027	0.4830	0.1897	0.2933	-3.0177
2	2.03	0.00	0.2297	-0.3141	-0.0013	-0.0053	0.0040	0.4836	0.1887	0.2948	-1.3737
3	4.04	0.00	0.5008	-0.7736	-0.0029	0.0053	0.0039	0.4882	0.1853	0.3029	-1.5448
4	6.03	-0.00	0.7863	-1.2798	-0.0016	0.0114	0.0025	0.5059	0.1823	0.3736	-1.6236
5	8.04	-0.00	1.1061	-1.5299	-0.0027	0.0122	0.0009	0.5218	0.1926	0.3292	-1.6544
6	10.09	-0.00	1.4603	-2.4022	0.0040	0.0129	-0.0006	0.5303	0.1978	0.3325	-1.6450
7	12.12	-0.00	1.8330	-2.9467	0.0061	0.0110	0.0003	0.5385	0.2026	0.3359	-1.6076
8	14.14	-0.00	2.2168	-3.4254	0.0072	0.0079	0.0011	0.5412	0.2063	0.3350	-1.5438
10	16.20	-0.00	2.6822	-3.8915	0.0038	0.0207	0.0030	0.5390	0.2168	0.3222	-1.4589
11	17.24	-0.00	2.9352	-4.0681	-0.0009	0.0396	0.0024	0.5356	0.2204	0.3152	-1.3860
12	18.26	-0.00	3.2179	-4.2290	-0.0073	0.0568	-0.0011	0.5341	0.2248	0.3093	-1.3142
13	19.31	-0.01	3.5137	-4.3834	-0.0033	0.0592	-0.0035	0.5339	0.2280	0.3058	-1.2477
14	20.36	-0.01	3.7929	-4.4915	0.0014	0.0560	-0.0045	0.5295	0.2326	0.2969	-1.1842
15	21.41	-0.01	4.0758	-4.5954	0.0106	0.0362	-0.0058	0.5239	0.2358	0.2881	-1.1275
16	22.46	-0.01	4.3907	-4.6872	0.0303	0.0074	-0.0032	0.5223	0.2377	0.2846	-1.0675
17	23.51	-0.01	4.7037	-4.7743	0.0474	-0.0212	-0.0033	0.5223	0.2386	0.2837	-1.0150
18	24.57	-0.01	5.0505	-4.8861	0.0665	-0.0554	-0.0022	0.5250	0.2477	0.2773	-0.9678
19	25.61	-0.01	5.3696	-4.9980	0.0835	-0.0909	0.0015	0.5264	0.2550	0.2713	-0.9308
20	26.69	-0.01	5.7660	-5.1877	0.1004	-0.1156	0.0079	0.5302	0.2642	0.2661	-0.8997
21	27.76	-0.01	6.0983	-5.3459	0.0990	-0.1191	0.0106	0.5292	0.2708	0.2584	-0.8766
22	28.82	-0.01	6.4914	-5.5793	0.1013	-0.0928	0.0029	0.5316	0.2770	0.2545	-0.8595
23	29.88	-0.01	6.8606	-5.8172	0.0952	-0.0561	-0.0005	0.5361	0.2843	0.2518	-0.8479
24	30.91	-0.01	7.2112	-6.0478	0.0970	-0.0598	-0.0003	0.5403	0.2928	0.2475	-0.8387
25	20.34	-0.01	3.7899	-4.4394	-0.0013	0.0602	-0.0033	0.5317	0.2945	0.2372	-1.1714
26	10.08	-0.00	1.4848	-2.5058	0.0045	0.0099	0.0008	0.5168	0.2569	0.2599	-1.6876
27	-0.00	0.00	-0.0195	0.0416	-0.0040	-0.0120	0.0055	0.4782	0.2168	0.2614	-2.1373



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6				PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 178 0.00 2.3				0.0	020000	0.0	OFF	OFF	OFF	OFF	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP	
1	-2.04	0.00	-0.0874	-0.1920	-0.0067	-0.0065	-0.0072	0.2343	0.1079	0.1264	2.1945	
2	-1.01	0.00	-0.0371	-0.1114	-0.0064	-0.0035	-0.0093	0.2309	0.0999	0.1311	3.0050	
3	0.01	0.00	0.0101	-0.0172	-0.0049	-0.0025	-0.0096	0.2306	0.1025	0.1281	-1.6973	
4	1.01	0.00	0.0544	0.0732	-0.0045	0.0005	-0.0102	0.2324	0.1015	0.1309	1.3445	
5	2.02	0.00	0.1009	0.1597	-0.0053	-0.0008	-0.0109	0.2344	0.1016	0.1327	1.5817	
6	3.03	0.00	0.1445	0.2513	-0.0023	0.0022	-0.0115	0.2384	0.1041	0.1343	1.6805	
7	4.07	0.00	0.1949	0.3384	-0.0042	0.0072	-0.0103	0.2426	0.1080	0.1345	1.6933	
8	5.04	-0.00	0.2481	0.4271	-0.0038	0.0081	-0.0127	0.2499	0.1151	0.1348	1.7213	
9	6.12	-0.00	0.3034	0.5215	-0.0069	0.0175	-0.0134	0.2594	0.1230	0.1364	1.7190	
10	8.13	-0.00	0.4241	0.6727	-0.0132	0.0338	-0.0146	0.2736	0.1371	0.1365	1.5060	
11	10.15	-0.00	0.5695	0.8053	-0.0179	0.0478	-0.0141	0.2809	0.1509	0.1299	1.4141	
12	12.18	-0.00	0.7351	0.9353	-0.0324	0.0810	-0.0154	0.2828	0.1622	0.1207	1.2723	
13	15.23	-0.00	1.0106	1.1758	-0.0630	0.1549	-0.0157	0.2838	0.1801	0.1036	1.1634	
14	18.34	-0.00	1.3359	1.4050	-0.0907	0.2452	-0.0161	0.2754	0.1938	0.0816	1.0510	
15	21.42	-0.00	1.7126	1.6518	-0.0732	0.2160	-0.0174	0.2581	0.1986	0.0596	0.9445	
16	24.49	-0.00	2.1400	1.8789	0.0404	-0.0391	-0.0168	0.2316	0.2165	0.0151	0.8788	
17	27.58	-0.01	2.6332	2.0820	0.3451	-0.7338	-0.0172	0.1953	0.2333	-0.0380	0.7987	
18	30.71	-0.04	3.2967	1.9227	1.1384	-1.9905	-0.0170	0.1702	0.2441	-0.0739	0.5832	
19	30.71	-0.04	3.2946	1.9610	1.1217	-2.0079	-0.0174	0.1669	0.2492	-0.0823	0.5952	
20	15.26	-0.00	0.9830	1.3586	-0.0638	0.1646	-0.0126	0.2778	0.2264	0.0514	1.3822	
21	5.08	-0.00	0.2170	0.5922	-0.0052	0.0115	-0.0095	0.2536	0.1497	0.1039	2.7293	
22	0.00	0.00	-0.0137	0.0977	-0.0051	0.0028	-0.0062	0.2355	0.1148	0.1206	-7.1365	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 179 0.85 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.2500 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-2.03	0.00	-0.0966	-0.1374	-0.0042	-0.0037	-0.0069	0.2409	0.0998	0.1411	1.4231
2	-1.02	0.00	-0.0463	-0.0558	-0.0075	0.0012	-0.0090	0.2373	0.1032	0.1341	1.1547
3	0.00	0.00	0.0019	0.0304	-0.0084	0.0042	-0.0076	0.2344	0.1010	0.1334	1.58332
4	1.01	0.00	0.0514	0.1223	-0.0055	0.0030	-0.0101	0.2366	0.1141	0.1225	2.3550
5	2.06	0.00	0.0939	0.2182	-0.0039	0.0059	-0.0106	0.2382	0.1098	0.1203	2.3230
6	3.01	0.00	0.1383	0.3018	-0.0070	0.0087	-0.0112	0.2413	0.1119	0.1294	2.1823
7	4.07	0.00	0.1922	0.3456	-0.0053	0.0096	-0.0102	0.2467	0.1145	0.1321	2.0584
8	5.09	-0.00	0.2429	0.4846	-0.0048	0.0125	-0.0108	0.2544	0.1190	0.1354	1.9950
9	6.09	-0.00	0.2962	0.5708	-0.0066	0.0153	-0.0132	0.2618	0.1270	0.1347	1.9249
10	8.10	-0.00	0.4172	0.7202	-0.0114	0.0290	-0.0145	0.2765	0.1404	0.1361	1.7263
11	10.14	-0.00	0.5674	0.8624	-0.0182	0.0489	-0.0140	0.2836	0.1534	0.1302	1.5199
12	12.21	-0.00	0.7371	1.0048	-0.0206	0.0772	-0.0154	0.2840	0.1632	0.1208	1.3633
13	15.27	-0.00	1.0180	1.2334	-0.0654	0.1679	-0.0174	0.2817	0.1775	0.1042	1.2116
14	18.39	-0.00	1.3570	1.4696	-0.0853	0.2432	-0.0197	0.2741	0.1904	0.0837	1.0830
15	21.45	-0.00	1.7326	1.7327	-0.0364	0.1278	-0.0183	0.2542	0.2201	0.0341	1.0000
16	24.51	-0.01	2.1882	1.9849	0.0955	-0.1596	-0.0199	0.2325	0.2204	0.0121	0.9071
17	27.65	-0.01	2.7294	2.1303	0.5197	-1.0178	-0.0192	0.1989	0.2351	-0.0363	0.7805
18	30.78	-0.05	3.4138	2.1658	0.9671	-1.4883	-0.0207	0.1734	0.2362	-0.0628	0.6344
19	15.27	-0.00	0.9960	1.3539	-0.0591	0.1557	-0.0160	0.2806	0.1966	0.0840	1.3593
20	5.08	0.00	0.2210	0.5838	-0.0061	0.0112	-0.0111	0.2595	0.1496	0.1099	2.6411
21	0.00	0.00	-0.0183	0.1034	-0.0074	0.0048	-0.0078	0.2416	0.1358	0.1058	-5.6652

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 180 0.92 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.0 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLW	CLL	CA	CAB	CAF	XCP
1	0.00	0.00	-0.0078	0.0693	-0.0069	0.0043	-0.0090	0.2401	0.0802	0.1598	-8.9289
3	-2.04	0.00	-0.1007	-0.1303	-0.0040	-0.0036	-0.0098	0.2438	0.1136	0.1302	1.2936
4	-1.00	0.00	-0.0526	-0.0447	-0.0083	0.0012	-0.0102	0.2391	0.1113	0.1278	0.8495
5	1.01	0.00	0.0441	0.1272	-0.0064	0.0029	-0.0112	0.2379	0.1092	0.1286	2.8814
6	2.05	-0.00	0.0913	0.2234	-0.0013	0.0038	-0.0118	0.2416	0.1136	0.1281	2.4476
7	3.03	0.00	0.1331	0.3025	-0.0066	0.0104	-0.0124	0.2447	0.1111	0.1335	2.2715
8	4.05	-0.00	0.1905	0.3941	-0.0038	0.0093	-0.0131	0.2527	0.1080	0.1448	2.0688
9	5.06	-0.00	0.2381	0.4644	-0.0055	0.0121	-0.0137	0.2599	0.1169	0.1429	2.0577
10	6.11	-0.00	0.2946	0.5753	-0.0049	0.0167	-0.0144	0.2699	0.1257	0.1442	1.9204
11	8.11	-0.00	0.4249	0.7242	-0.0128	0.0318	-0.0157	0.2851	0.1438	0.1413	1.7843
12	10.19	-0.00	0.5825	0.8534	-0.0134	0.0467	-0.0153	0.2919	0.1565	0.1353	1.4659
13	12.24	-0.00	0.7553	1.0026	-0.0185	0.0598	-0.0169	0.2941	0.1682	0.1259	1.3274
14	15.27	-0.00	1.0393	1.2353	-0.0473	0.1140	-0.0206	0.2907	0.1824	0.1083	1.1886
15	18.37	-0.01	1.3819	1.4922	-0.0711	0.2128	-0.0214	0.2829	0.2047	0.0782	1.0798
16	21.48	-0.01	1.7917	1.7903	-0.0022	0.0541	-0.0208	0.2693	0.2159	0.0534	0.9992
17	24.57	-0.01	2.2922	2.0487	0.1223	-0.1724	-0.0206	0.2523	0.2281	0.0242	0.8938
18	27.73	-0.03	2.9098	2.5176	0.2856	-0.3110	-0.0220	0.2233	0.2370	-0.0137	0.8652
19	30.99	-0.07	3.7699	3.3489	0.3631	0.0567	-0.0265	0.1976	0.2580	-0.0604	0.8883
20	15.31	-0.00	1.0147	1.3973	-0.0224	0.0427	-0.0164	0.2873	0.2136	0.0737	1.3771
21	5.09	-0.00	0.2186	0.5994	-0.0080	0.0168	-0.0124	0.2620	0.1738	0.0882	2.7423
22	0.02	0.00	-0.0221	0.1220	-0.0059	0.0086	-0.0107	0.2403	0.1353	0.1050	-5.5182

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	PART	MACH	RX10-6	PHI	CONF	L	DEL1	OEL2	OEL3	DEL4	TRANSITION
1	181	0.98	2.3	0.0	82W0F0	0.0	OFF	OFF	OFF	OFF	UNKNOWN
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-2.03	0.00	-0.1042	-0.1235	-0.0028	0.0003	-0.0093	0.2698	0.1065	0.1633	1.1851
2	-1.00	0.00	-0.0501	-0.0428	-0.0046	0.0030	-0.0113	0.2692	0.1138	0.1554	0.8462
3	-1.00	0.00	-0.0503	-0.0388	-0.0014	-0.0025	-0.0097	0.2683	0.1229	0.1454	0.7719
4	-0.01	0.00	-0.0074	0.0547	-0.0044	0.0077	-0.0117	0.2682	0.1196	0.1485	-7.4398
5	1.04	0.00	0.0508	0.1335	-0.0027	0.0047	-0.0124	0.2691	0.1177	0.1514	2.6291
6	2.05	0.00	0.0995	0.2238	-0.0044	0.0056	-0.0130	0.2722	0.1188	0.1534	2.2488
7	3.08	-0.00	0.1478	0.3186	-0.0050	0.0120	-0.0136	0.2807	0.1203	0.1604	2.1555
8	4.06	-0.00	0.1943	0.4024	-0.0023	0.0128	-0.0127	0.2842	0.1250	0.1591	2.0289
9	5.08	-0.00	0.2518	0.4924	-0.0040	0.0136	-0.0150	0.2927	0.1293	0.1634	1.9577
10	6.08	-0.00	0.3114	0.5837	-0.0066	0.0200	-0.0141	0.3138	0.1484	0.1653	1.8742
11	7.13	-0.00	0.3827	0.6657	-0.0036	0.0301	-0.0147	0.3196	0.1535	0.1661	1.7394
12	8.17	-0.00	0.4440	0.7425	-0.0106	0.0362	-0.0154	0.3267	0.1641	0.1626	1.6721
13	10.21	-0.00	0.6017	0.8953	-0.0144	0.0526	-0.0168	0.3376	0.1736	0.1639	1.4879
14	12.26	-0.00	0.7828	1.0614	-0.0200	0.0613	-0.0169	0.3468	0.1811	0.1657	1.3558
15	15.34	-0.00	1.0910	1.3212	-0.0311	0.1031	-0.0194	0.3425	0.2020	0.1405	1.2118
16	18.44	-0.01	1.4666	1.6128	-0.0475	0.1574	-0.0191	0.3414	0.2234	0.1179	1.0997
17	21.56	-0.01	1.9776	1.9548	0.0712	-0.0739	-0.0197	0.3172	0.2458	0.0714	0.9909
18	21.57	-0.01	1.9866	2.0093	0.0298	-0.0064	-0.0182	0.3299	0.2496	0.0803	1.0113
19	24.73	-0.01	2.6685	2.5145	0.0987	-0.0082	-0.0208	0.3130	0.2584	0.0546	0.9423
20	27.95	-0.04	3.5066	3.3105	0.1673	0.0928	-0.0241	0.3041	0.2670	0.0371	0.9441
21	31.23	-0.07	4.4786	4.1750	0.2381	0.2921	-0.0266	0.2828	0.2777	0.0051	0.9322
22	15.33	-0.00	1.0567	1.4974	-0.0271	0.0936	-0.0136	0.3361	0.2736	0.0625	1.4175
23	5.10	-0.00	0.2263	0.6113	-0.0084	0.0237	-0.0104	0.3011	0.1956	0.1055	2.7012
24	5.10	-0.00	0.2328	0.5970	-0.0051	0.0238	-0.0104	0.2935	0.1926	0.1009	2.5649
25	0.01	0.00	-0.0168	0.1169	-0.0045	0.0064	-0.0088	0.2662	0.1472	0.1189	-6.9604

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NACH RX10-6											
1 182 1.10 2.3 0.0 0.2000 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP
1	-2.05	-0.00	-0.1169	-0.1277	-0.0155	0.0494	-0.0085	0.4326	0.1452	0.2874	1.0923
2	-1.03	-0.00	-0.0647	-0.0383	-0.0151	0.0535	-0.0073	0.4255	0.1578	0.2678	0.5919
3	0.01	-0.00	-0.0094	0.0583	-0.0157	0.0580	-0.0092	0.4243	0.1621	0.2622	-6.1700
4	1.04	-0.00	0.0415	0.1551	-0.0142	0.0606	-0.0099	0.4245	0.1663	0.2582	3.7401
5	2.08	-0.00	0.0923	0.2604	-0.0147	0.0634	-0.0106	0.4263	0.1714	0.2549	2.8211
6	3.06	-0.00	0.1404	0.3576	-0.0142	0.0576	-0.0112	0.4327	0.1687	0.2640	2.5482
7	4.10	-0.00	0.1968	0.4568	-0.0146	0.0703	-0.0105	0.4415	0.1723	0.2692	2.3206
8	5.09	-0.00	0.2487	0.5591	-0.0141	0.0729	-0.0112	0.4512	0.1807	0.2704	2.2486
9	6.13	-0.00	0.3122	0.6588	-0.0154	0.0773	-0.0134	0.4651	0.1830	0.2821	2.1101
10	8.19	-0.00	0.4511	0.9462	-0.0181	0.0880	-0.0134	0.4827	0.2030	0.2797	1.8758
11	10.24	-0.01	0.6172	0.9982	-0.0233	0.1061	-0.0134	0.4909	0.2171	0.2738	1.6141
12	12.24	-0.01	0.8002	1.1914	-0.0244	0.1130	-0.0137	0.4964	0.2571	0.2392	1.4896
13	15.36	-0.01	1.1333	1.4676	-0.0220	0.1124	-0.0138	0.5006	0.2624	0.2382	1.2950
14	18.49	-0.01	1.5659	1.7856	-0.0286	0.1497	-0.0172	0.5009	0.2725	0.2284	1.1403
15	21.67	-0.01	2.1990	2.1947	0.0580	-0.0449	-0.0162	0.4894	0.2867	0.2027	0.9988
16	24.85	-0.02	2.9525	2.7719	0.0877	-0.0357	-0.0193	0.4803	0.2945	0.1858	0.9388
17	28.13	-0.04	3.8609	3.3404	0.1826	0.0072	-0.0219	0.4792	0.3033	0.1759	0.8632
18	31.34	-0.06	4.7774	3.7016	0.2441	0.1806	-0.0244	0.4864	0.3093	0.1770	0.7748
19	15.35	-0.01	1.1046	1.6207	-0.0184	0.0967	-0.0100	0.4976	0.3096	0.1880	1.4672
20	5.13	-0.00	0.2237	0.6776	-0.0163	0.0809	-0.0071	0.4581	0.2640	0.1941	3.0289
21	0.02	-0.00	-0.0327	0.1545	-0.0201	0.0625	-0.0037	0.4245	0.2189	0.2856	-4.7249

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART			MACH	RN10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1			183	1.20	2.3	0.0	0.2000	0.0	OFF	OFF	OFF	OFF	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP		
1	-2.03	0.00	-0.1165	-0.1289	-0.0083	0.0113	-0.0029	0.4348	0.1933	0.2416	1.1066		
2	-1.03	0.00	-0.0654	-0.0204	-0.0040	0.0174	-0.0033	0.4304	0.1821	0.2482	0.3116		
3	-0.00	0.00	-0.0166	0.1054	-0.0096	0.0152	-0.0039	0.4271	0.1744	0.2527	-6.2762		
4	1.05	0.00	0.0393	0.2117	-0.0061	0.0162	-0.0046	0.4264	0.1734	0.2531	5.3035		
5	2.06	-0.00	0.0656	0.3392	-0.0057	0.0174	-0.0053	0.4284	0.1754	0.2530	3.9626		
6	3.06	-0.00	0.1369	0.4585	-0.0071	0.0164	-0.0061	0.4315	0.1699	0.2616	3.3486		
7	4.06	0.00	0.1866	0.5836	-0.0123	0.0225	-0.0055	0.4415	0.1711	0.2704	3.1284		
8	5.12	-0.00	0.2406	0.7244	-0.0059	0.0273	-0.0063	0.4557	0.1721	0.2835	3.0082		
9	6.14	0.00	0.3005	0.8546	-0.0149	0.0219	-0.0060	0.4655	0.1762	0.2893	2.8442		
10	6.13	-0.01	0.3035	0.8466	0.0110	0.0265	-0.0069	0.4645	0.1849	0.2796	2.7699		
11	7.17	0.00	0.3669	0.9585	-0.0248	0.0309	-0.0068	0.4751	0.1879	0.2872	2.6121		
12	8.22	-0.00	0.4458	1.0610	-0.0125	0.0336	-0.0061	0.4868	0.1938	0.2930	2.3799		
13	10.24	-0.00	0.6214	1.7454	0.0017	0.0290	-0.0077	0.4882	0.2019	0.2863	2.0042		
14	12.33	-0.00	0.8339	1.4529	-0.0115	0.0391	-0.0098	0.4912	0.2069	0.2844	1.7423		
15	15.45	-0.00	1.2050	1.7757	-0.0086	0.0538	-0.0130	0.4983	0.2206	0.2777	1.4736		
16	18.61	-0.01	1.7347	2.1756	-0.0249	0.1176	-0.0143	0.5023	0.2330	0.2693	1.2542		
17	21.79	-0.01	2.5065	2.6557	0.0290	0.0226	-0.0181	0.4993	0.2491	0.2502	1.0595		
18	25.04	-0.02	3.3638	3.1556	0.0902	0.0139	-0.0201	0.4999	0.2628	0.2371	0.9381		
19	28.29	-0.03	4.2870	3.5408	0.1616	-0.0054	-0.0219	0.5052	0.2731	0.2321	0.8259		
20	31.55	-0.05	5.3749	3.5761	0.1564	0.1947	-0.0260	0.4947	0.2663	0.2084	0.6653		
21	15.43	-0.00	1.1832	1.8949	-0.0127	0.0547	-0.0106	0.4946	0.2915	0.2031	1.6015		
22	5.13	-0.00	0.2312	0.7903	0.0025	0.0166	-0.0079	0.4545	0.2499	0.2045	3.4179		
23	-0.00	0.00	-0.0189	0.1292	-0.0068	0.0089	-0.0054	0.4305	0.2092	0.2212	-4.8282		

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 104 1.30 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 62.0F0 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAP	XCP
1	-2.04	0.00	-0.1079	-0.1325	-0.0034	-0.0049	-0.0056	0.4166	0.1589	0.2577	1.2205
2	-1.01	0.00	-0.0524	-0.0166	-0.0088	-0.0037	-0.0075	0.4130	0.1641	0.2490	0.3157
3	-0.00	0.00	-0.0032	0.1064	-0.0065	0.0072	-0.0080	0.4126	0.1645	0.2481	-32.7993
4	1.00	-0.00	0.0476	0.2296	0.0034	0.0050	-0.0073	0.4128	0.1648	0.2480	4.8279
5	2.03	0.00	0.0980	0.3566	-0.0110	0.0140	-0.0095	0.4143	0.1649	0.2494	3.6393
6	3.08	0.00	0.1519	0.4838	-0.0114	0.0104	-0.0090	0.4185	0.1662	0.2523	3.1848
7	4.10	-0.00	0.2073	0.6048	-0.0043	0.0194	-0.0109	0.4261	0.1677	0.2585	2.9180
8	5.10	-0.00	0.2645	0.7240	-0.0026	0.0395	-0.0102	0.4388	0.1706	0.2682	2.7371
9	6.13	-0.00	0.3349	0.8336	-0.0095	0.0310	-0.0112	0.4484	0.1747	0.2737	2.4886
10	8.24	-0.00	0.4934	1.0313	-0.0049	0.0440	-0.0128	0.4669	0.1796	0.2873	2.0901
11	10.25	-0.00	0.6724	1.2051	-0.0237	0.0582	-0.0146	0.4741	0.1867	0.2874	1.7922
12	12.35	-0.00	0.8864	1.4303	-0.0139	0.0732	-0.0150	0.4848	0.1953	0.2895	1.6136
13	15.43	-0.00	1.2853	1.8054	-0.0202	0.0800	-0.0174	0.4914	0.2104	0.2810	1.4050
14	18.67	-0.00	1.8439	2.7647	0.0087	0.0073	-0.0204	0.4978	0.2238	0.2740	1.1958
15	21.92	-0.01	2.7014	2.7833	0.0280	0.0273	-0.0238	0.5034	0.2418	0.2616	1.0303
16	25.08	-0.02	3.5802	3.0881	0.0674	0.0045	-0.0270	0.5101	0.2550	0.2550	0.8626
17	28.38	-0.03	4.5943	3.2168	0.0556	0.1178	-0.0308	0.5277	0.2653	0.2624	0.7002
18	31.58	-0.02	5.6938	2.8847	0.1128	-0.0479	-0.0315	0.5249	0.2804	0.2445	0.5866
19	31.59	-0.02	5.7017	2.9116	0.1027	-0.0413	-0.0317	0.5186	0.2878	0.2308	0.5107

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 187 0.80 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 85W0F0 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-2.03	0.00	-0.0909	-0.1253	-0.0043	-0.0015	-0.0054	0.2559	0.1108	0.1450	1.3796
2	-1.01	0.00	-0.0454	-0.0627	-0.0053	0.0034	-0.0075	0.2530	0.1055	0.1475	1.3807
3	0.01	0.00	0.0023	0.0005	-0.0025	0.0020	-0.0078	0.2499	0.0963	0.1536	0.2345
4	1.01	0.00	0.0466	0.0638	-0.0033	0.0047	-0.0083	0.2496	0.0982	0.1514	1.3686
5	-0.01	0.00	0.0023	0.0050	-0.0062	0.0041	-0.0078	0.2505	0.0996	0.1510	2.2179
6	2.01	0.00	0.0903	0.1271	-0.0028	0.0032	-0.0088	0.2499	0.0978	0.1521	1.4078
7	2.01	0.00	0.0930	0.1276	-0.0028	0.0053	-0.0088	0.2527	0.1023	0.1504	1.3710
8	3.05	0.00	0.1342	0.1920	-0.0036	0.0059	-0.0075	0.2553	0.1044	0.1508	1.3796
9	4.04	-0.00	0.1801	0.2572	-0.0032	0.0065	-0.0099	0.2578	0.1080	0.1498	1.4277
10	5.07	-0.00	0.2331	0.3185	-0.0014	0.0050	-0.0104	0.2613	0.1144	0.1469	1.3668
11	6.07	-0.00	0.2804	0.3842	0.0003	0.0035	-0.0110	0.2662	0.1198	0.1464	1.3699
12	8.12	-0.00	0.3899	0.4921	0.0002	0.0109	-0.0102	0.2761	0.1283	0.1478	1.2621
13	10.13	-0.00	0.5204	0.5687	0.0041	0.0096	-0.0113	0.2813	0.1521	0.1292	1.0926
14	12.14	-0.00	0.6755	0.6317	0.0107	0.0017	-0.0125	0.2823	0.1607	0.1216	0.9352
15	15.22	-0.00	0.9486	0.7364	0.0122	0.0072	-0.0126	0.2715	0.1800	0.0915	0.7763
16	18.27	-0.00	1.2690	0.8528	-0.0108	0.0555	-0.0111	0.2571	0.1948	0.0623	0.6728
17	21.37	-0.00	1.6512	0.8763	-0.4210	1.0292	-0.0095	0.2460	0.1882	0.0578	0.5307
18	21.36	-0.01	1.6191	0.9469	0.0294	0.0317	-0.0079	0.2341	0.2323	0.0018	0.6145
19	24.43	-0.00	2.0489	0.9962	-0.4012	0.9723	-0.0054	0.2111	0.2188	-0.0077	0.4853
20	27.44	0.17	2.9406	0.0468	-2.0020	2.1280	0.0014	0.2288	0.2411	-0.0123	0.8159
21	30.65	0.38	3.4278	0.8583	-1.9148	-1.4162	0.0202	0.2023	0.3085	-0.1062	0.2504
22	15.20	-0.00	0.9252	0.6249	0.0062	0.0122	-0.0038	0.2671	0.2121	0.0551	0.8915
23	9.07	0.00	0.2045	0.4112	-0.0029	0.0036	0.0002	0.2597	0.1538	0.1059	2.0105
24	0.00	0.00	-0.0159	0.0582	-0.0052	-0.0018	0.0011	0.2439	0.1283	0.1156	-3.6554



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(4T)  
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 SHEET 1 OF 1

TEST PART NAME RX10-6				PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 188 0.65 2.3				0.0	0.5000	0.0	OFF	OFF	OFF	OFF	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP	
1	0.00	0.00	-0.0103	0.0388	-0.0062	-0.0019	0.0010	0.2553	0.0669	0.1884	-3.7793	
2	-2.03	0.00	-0.0948	-0.1036	-0.0067	-0.0054	0.0017	0.2617	0.0987	0.1626	1.0929	
3	-1.00	0.00	-0.0509	-0.0433	-0.0057	-0.0027	0.0014	0.2574	0.1011	0.1562	0.8502	
4	1.02	0.00	0.0398	0.0667	-0.0056	0.0006	0.0006	0.2533	0.1022	0.1511	2.1808	
5	2.06	0.00	0.0869	0.1482	-0.0040	0.0012	0.0000	0.2548	0.1025	0.1523	1.7060	
6	3.03	0.00	0.1285	0.2097	-0.0035	0.0039	-0.0004	0.2577	0.1069	0.1508	1.6310	
7	4.05	0.00	0.1787	0.2743	-0.0055	0.0045	-0.0010	0.2633	0.1128	0.1505	1.5351	
8	5.09	0.00	0.2265	0.3365	-0.0038	0.0051	-0.0015	0.2665	0.1155	0.1510	1.4857	
9	6.06	0.00	0.2707	0.4012	-0.0021	0.0036	-0.0021	0.2731	0.1235	0.1496	1.4816	
10	8.14	-0.00	0.3897	0.5027	-0.0009	0.0067	-0.0014	0.2825	0.1342	0.1484	1.2902	
11	10.14	-0.00	0.5194	0.5708	0.0016	0.0074	-0.0024	0.2859	0.1501	0.1358	1.0989	
12	10.14	-0.00	0.5194	0.5786	0.0041	0.0054	-0.0025	0.2894	0.1587	0.1308	1.1139	
13	12.14	-0.00	0.6795	0.6344	0.0117	-0.0063	-0.0037	0.2883	0.1649	0.1234	0.9337	
14	14.21	-0.00	0.8520	0.7072	0.0158	-0.0117	-0.0050	0.2798	0.1795	0.1003	0.8300	
15	18.31	-0.00	1.2742	0.8873	0.0838	-0.1578	-0.0055	0.2605	0.1962	0.0643	0.6942	
16	21.36	-0.00	1.6543	0.9611	0.2013	-0.6026	-0.0002	0.2476	0.2009	0.0466	0.5810	
17	24.43	-0.00	2.0879	1.0328	-0.3552	0.8261	-0.0018	0.2155	0.2359	-0.0204	0.4947	
18	27.55	0.21	3.0403	0.0851	-1.9947	1.6330	0.0080	0.2307	0.2453	-0.0146	0.0200	
19	30.71	0.39	3.5416	0.9147	-1.4310	-2.4331	0.0245	0.2177	0.2498	-0.0321	0.2583	
20	30.70	0.42	3.5677	0.7474	-1.2951	-3.2399	0.0287	0.2156	0.2878	-0.0722	0.2095	
21	15.23	-0.00	0.9380	0.8456	0.0083	0.0040	0.0046	0.2779	0.2384	0.0395	0.9016	
22	5.05	0.00	0.7033	0.4029	-0.0017	-0.0068	0.0070	0.2697	0.1654	0.1042	1.9817	
23	-0.01	0.00	-0.0200	0.0552	-0.0015	-0.0140	0.0096	0.2538	0.1109	0.1429	-2.7649	
24	-2.02	0.00	-0.0958	-0.1059	-0.0041	-0.0149	0.0096	0.2862	0.1038	0.1824	1.1047	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)    PROPULSION WIND TUNNEL FACILITY(PWT)    AERODYNAMIC WIND TUNNEL(4T)  
 PAGE 1 OF 1    MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART MACH RX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	189	U.92 2.3	0.0	US40F0	0.0	OFF	OFF	OFF	OFF	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	KCP
1	-2.02	0.00	-0.0955	-0.1096	-0.0052	-0.0149	0.0096	0.2863	0.1082	0.1781	1.1474
2	-1.01	0.00	-0.0504	-0.0535	-0.0038	-0.0104	0.0111	0.2824	0.1071	0.1753	1.0618
3	0.01	0.00	-0.0049	0.0162	-0.0036	-0.0078	0.0091	0.2823	0.1041	0.1782	-3.3182
4	1.03	0.00	0.0423	0.0779	-0.0054	-0.0091	0.0085	0.2808	0.1070	0.1738	1.8402
5	2.02	0.00	0.0846	0.1405	-0.0027	-0.0066	0.0081	0.2818	0.1057	0.1761	1.6559
6	3.05	0.00	0.1317	0.2080	-0.0045	-0.0021	0.0076	0.2867	0.1102	0.1765	1.5799
7	4.05	0.00	0.1750	0.2704	-0.0040	-0.0015	0.0070	0.2921	0.1115	0.1806	1.5448
8	5.09	0.00	0.2252	0.3339	-0.0024	-0.0028	0.0064	0.2988	0.1195	0.1793	1.4827
9	6.09	0.00	0.2746	0.3874	-0.0053	0.0016	0.0076	0.3035	0.1268	0.1767	1.3908
10	8.10	-0.00	0.3922	0.4817	-0.0006	0.0045	0.0050	0.3178	0.1413	0.1766	1.2282
11	10.17	-0.00	0.5347	0.5501	0.0020	0.0033	0.0055	0.3253	0.1494	0.1759	1.0249
12	12.17	-0.00	0.6969	0.6127	0.0047	0.0020	0.0043	0.3222	0.1672	0.1550	0.8792
13	15.21	-0.00	0.9854	0.7460	-0.0003	0.0229	0.0039	0.3109	0.1970	0.1239	0.7570
14	18.35	-0.00	1.3424	0.8879	0.0522	-0.0746	0.0042	0.2958	0.2108	0.0850	0.6615
15	21.40	-0.00	1.7293	1.0345	-0.0156	0.0533	0.0052	0.2704	0.2219	0.0485	0.5982
16	24.51	0.11	2.4415	0.5226	-1.2182	1.3947	0.0098	0.2671	0.2384	0.0287	0.2148
18	30.80	0.33	3.8796	0.8654	-0.5346	-3.4675	0.0282	0.2511	0.3090	-0.0579	0.2231
19	15.25	-0.00	0.9744	0.6300	0.0087	0.0042	0.0101	0.3181	0.2315	0.0866	0.8918
20	5.06	0.00	0.2075	0.3879	-0.0026	-0.0082	0.0146	0.3021	0.1596	0.1425	1.8691

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 190 0.48 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 85.0F0 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAR	CAF	ACP
1	-2.03	0.00	-0.1021	-0.1010	-0.0029	-0.0178	0.0153	0.3287	0.0945	0.2342	0.9894
2	-1.01	0.00	-0.0465	-0.0342	-0.0027	-0.0134	0.0165	0.3308	0.1023	0.2285	0.6706
3	-0.00	0.00	-0.0040	0.0190	-0.0034	-0.0091	0.0147	0.3269	0.1095	0.2174	-2.1065
4	1.02	0.00	0.0378	0.0853	-0.0051	-0.0067	0.0141	0.3299	0.1093	0.2206	2.2579
6	3.05	0.00	0.1353	0.2046	-0.0020	-0.0037	0.0147	0.3376	0.1159	0.2216	1.5118
7	4.07	0.00	0.1790	0.2684	-0.0026	-0.0013	0.0142	0.3424	0.1201	0.2223	1.4993
8	5.06	0.00	0.2289	0.3249	-0.0032	0.0011	0.0121	0.3476	0.1285	0.2191	1.4196
9	6.08	0.00	0.2834	0.3790	-0.0015	0.0016	0.0132	0.3571	0.1311	0.2260	1.3370
10	8.14	0.00	0.4029	0.4673	-0.0025	0.0044	0.0121	0.3678	0.1485	0.2193	1.1599
11	10.19	-0.00	0.5537	0.5334	0.0012	0.0106	0.0111	0.3778	0.1699	0.2079	0.9633
12	12.20	-0.00	0.7180	0.5967	-0.0014	0.0169	0.0114	0.3793	0.1783	0.2009	0.8311
13	15.28	-0.00	1.0230	0.7107	-0.0111	0.0567	0.0094	0.3796	0.1847	0.1949	0.6947
14	18.36	-0.00	1.3499	0.8371	0.0172	-0.0004	0.0098	0.3564	0.2163	0.1401	0.6023
15	21.47	-0.00	1.8426	0.9541	0.0701	-0.1096	0.0109	0.3275	0.2427	0.0848	0.5178
17	27.74	0.20	3.3086	0.9558	-1.0444	-0.2182	0.0202	0.3046	0.2874	0.0171	0.2889
18	30.90	0.26	4.1695	1.2255	-0.4314	-2.5332	0.0264	0.2929	0.3026	-0.0097	0.2939
19	30.92	0.26	4.2003	1.2247	-0.4095	-2.5569	0.0272	0.2990	0.3137	-0.0147	0.2916
20	15.24	-0.00	0.9980	0.7936	-0.0168	0.0649	0.0187	0.3777	0.2750	0.1027	0.7951
21	5.07	0.00	0.2093	0.3868	0.0010	-0.0057	0.0214	0.3505	0.2105	0.1400	1.8480
22	-0.00	0.00	-0.0246	0.0584	-0.0036	-0.0162	0.0223	0.3274	0.1468	0.1805	-2.3176

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 191 1.10 2.3			0.0	MS-0F0	0.0	OFF	OFF	OFF	OFF	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	MCP
1	-7.04	0.00	-0.0916	-0.1526	-0.0144	0.0219	0.0271	0.4331	0.1571	0.2760	1.6614
2	-1.03	0.00	-0.0442	-0.0964	-0.0152	0.0745	0.0270	0.4280	0.1536	0.2744	2.1823
3	-0.01	0.00	0.0077	-0.0279	-0.0159	0.0321	0.0268	0.4281	0.1622	0.2659	-3.6193
4	1.03	0.00	0.0532	0.0409	-0.0145	0.0310	0.0262	0.4309	0.1687	0.2622	0.7603
5	2.03	0.00	0.0996	0.1059	-0.0168	0.0399	0.0256	0.4328	0.1687	0.2641	1.0631
6	3.07	-0.00	0.1493	0.1706	-0.0152	0.0366	0.0249	0.4364	0.1704	0.2660	1.1425
7	4.04	-0.00	0.1942	0.2457	-0.0176	0.0458	0.0228	0.4455	0.1787	0.2668	1.2650
8	5.05	-0.00	0.2478	0.3082	-0.0141	0.0448	0.0237	0.4532	0.1795	0.2737	1.2436
9	6.10	-0.00	0.2979	0.3971	-0.0157	0.0440	0.0231	0.4644	0.1872	0.2772	1.3330
10	8.14	-0.00	0.4251	0.5056	-0.0154	0.0554	0.0221	0.4813	0.1895	0.2918	1.1893
11	10.18	-0.00	0.5739	0.6007	-0.0130	0.0550	0.0210	0.4907	0.2072	0.2835	1.0467
12	12.20	-0.00	0.7488	0.6695	-0.0132	0.0409	0.0212	0.4924	0.2167	0.2757	0.8940
13	15.29	-0.00	1.0786	0.7990	-0.0589	0.1858	0.0198	0.4894	0.2357	0.2537	0.7407
14	18.40	-0.00	1.4934	0.8822	-0.1599	0.4062	0.0183	0.4809	0.2534	0.2275	0.5908
15	21.51	0.01	2.0373	0.8792	-0.4599	0.9463	0.0164	0.4681	0.2758	0.1923	0.4315
16	24.64	0.05	2.8298	0.6160	-0.8096	1.3365	0.0164	0.4508	0.2901	0.1607	0.2177
17	27.81	0.14	3.8427	0.0808	-1.1153	0.8697	0.0179	0.4488	0.3105	0.1383	0.0210
18	31.04	0.25	4.6165	0.4807	-0.5073	-1.8727	0.0229	0.4333	0.3434	0.0899	0.1041
19	15.32	-0.00	1.0692	0.8654	-0.0746	0.2207	0.0222	0.4963	0.3375	0.1589	0.8094
20	5.04	-0.00	0.2395	0.3711	-0.0154	0.0440	0.0251	0.4630	0.2432	0.2198	1.5494
21	-0.01	0.00	-0.0070	0.0255	-0.0152	0.0311	0.0283	0.4396	0.1939	0.2457	-3.6538

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 192 1.20 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 8500F0 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP
1	-2.03	0.00	-0.1043	-0.0824	-0.0093	0.0136	0.0260	0.4227	0.1485	0.2741	0.7906
2	-1.00	0.00	-0.0545	-0.0107	-0.0080	0.0144	0.0243	0.4156	0.1433	0.2723	0.1961
3	0.00	0.00	-0.0108	0.0002	-0.0077	0.0135	0.0238	0.4137	0.1421	0.2711	-6.3336
4	1.03	0.00	0.0362	0.1505	-0.0044	0.0110	0.0232	0.4141	0.1426	0.2714	4.1500
5	2.05	0.00	0.0819	0.2306	-0.0057	0.0132	0.0223	0.4153	0.1544	0.2608	2.8159
6	3.04	0.00	0.1247	0.3067	-0.0071	0.0186	0.0216	0.4188	0.1595	0.2593	2.4607
7	4.11	-0.00	0.1774	0.3652	-0.0046	0.0160	0.0207	0.4233	0.1620	0.2613	2.1711
8	5.10	-0.00	0.2277	0.4605	-0.0031	0.0214	0.0213	0.4309	0.1677	0.2632	2.0221
9	6.09	-0.00	0.2823	0.5344	-0.0035	0.0205	0.0195	0.4417	0.1638	0.2779	1.8945
10	8.18	-0.00	0.4036	0.6802	-0.0000	0.0143	0.0187	0.4547	0.1816	0.2731	1.6852
11	10.19	-0.00	0.5583	0.7558	0.0028	0.0152	0.0192	0.4625	0.1800	0.2825	1.3536
12	12.24	-0.00	0.7485	0.8222	-0.0001	0.0193	0.0179	0.4649	0.1858	0.2791	1.0986
13	15.33	-0.00	1.0484	0.9417	-0.0164	0.0461	0.0156	0.4620	0.2053	0.2566	0.8648
14	18.42	-0.00	1.5244	1.0440	-0.0999	0.2568	0.0138	0.4532	0.2126	0.2406	0.6980
15	21.58	0.00	2.1455	1.1082	-0.1966	0.4231	0.0120	0.4393	0.2355	0.2038	0.5165
16	24.78	0.01	2.4970	1.1560	-0.2165	0.4086	0.0112	0.4209	0.2464	0.1745	0.3998
17	27.92	0.03	3.7670	0.8993	-0.4497	0.7533	0.0096	0.4076	0.2483	0.1593	0.2387
18	31.07	0.06	4.6952	0.5101	-0.4592	0.3449	0.0076	0.3937	0.2589	0.1347	0.1086
19	15.32	-0.00	1.0706	1.0101	-0.0341	0.1112	0.0187	0.4644	0.2492	0.2152	0.9435
20	5.00	0.00	0.2133	0.5176	-0.0054	0.0142	0.0218	0.4348	0.2261	0.2088	2.4266
21	0.00	0.00	-0.0189	0.0991	-0.0069	0.0138	0.0225	0.4183	0.1634	0.2549	-5.2577

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
I 193 1.30 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 85W0F0 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CT	CLM	CLL	CA	CAB	CAF	KCP
1	-2.03	0.00	-0.0831	-0.1487	0.0005	-0.0080	0.0171	0.3837	0.1442	0.2395	1.7001
2	-2.03	0.00	-0.0454	-0.1346	-0.0024	-0.0175	0.0170	0.3924	0.1619	0.2305	1.6346
3	-0.99	0.00	-0.0373	-0.0503	-0.0004	-0.0197	0.0153	0.3905	0.1655	0.2250	1.3488
4	0.01	-0.00	0.0045	0.0395	0.0001	0.0003	0.0162	0.3871	0.1708	0.2163	4.6338
5	1.03	0.00	0.0542	0.1363	-0.0033	-0.0115	0.0142	0.3903	0.1654	0.2249	2.5178
6	2.06	0.00	0.1001	0.2319	-0.0075	-0.0076	0.0136	0.3931	0.1587	0.2345	2.3173
7	3.08	0.00	0.1444	0.3258	-0.0069	0.0076	0.0145	0.3947	0.1617	0.2330	2.1956
8	4.09	0.00	0.1975	0.4145	-0.0082	0.0068	0.0123	0.3967	0.1662	0.2305	2.0994
9	5.08	-0.00	0.2462	0.5042	-0.0002	0.0124	0.0133	0.4062	0.1672	0.2390	2.0482
10	6.12	-0.00	0.2990	0.6065	-0.0025	0.0214	0.0128	0.4152	0.1711	0.2441	2.0283
11	8.18	-0.00	0.4341	0.7337	-0.0039	0.0224	0.0112	0.4243	0.1799	0.2444	1.6902
12	10.20	-0.00	0.6007	0.8208	-0.0067	0.0326	0.0099	0.4319	0.1918	0.2401	1.3665
13	12.27	-0.00	0.8079	0.8981	-0.0075	0.0369	0.0072	0.4329	0.1956	0.2373	1.1116
14	15.36	-0.00	1.1914	1.0149	-0.0064	0.0540	0.0046	0.4369	0.2110	0.2259	0.8561
15	18.46	-0.01	1.7111	1.0793	-0.0013	0.0683	0.0031	0.4350	0.2217	0.2133	0.6307
16	21.67	-0.01	2.4214	1.0836	0.0120	0.0408	0.0015	0.4277	0.2377	0.1900	0.4475
17	24.86	0.00	3.2157	1.0466	-0.1108	0.2355	-0.0010	0.4241	0.2535	0.1706	0.3255
18	27.98	0.01	4.1057	0.7684	-0.3062	0.5418	-0.0026	0.4276	0.2612	0.1664	0.1872
19	31.18	0.23	5.1249	0.1408	-0.1663	-0.0157	-0.0043	0.4184	0.2732	0.1452	0.0275
20	15.38	-0.00	1.1930	1.0713	-0.0082	0.0624	0.0059	0.4386	0.2683	0.1503	0.8988
21	5.10	-0.00	0.2363	0.5674	-0.0068	0.0224	0.0064	0.4074	0.2484	0.1589	2.4014
22	0.01	0.00	-0.0030	0.0925	-0.0084	-0.0042	0.0067	0.3965	0.2245	0.1721	-30.4071

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

	TEST PART MACH RX10-6			PM1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
	1	196	0.80	2.3	0.8	M400F0	0.0	OFF	OFF	OFF	OFF	UNKNOWN
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP	
1	-2.02	0.00	-0.0899	-0.1694	-0.0030	-0.0131	-0.0055	0.2444	0.1009	0.1436	1.8839	
2	-2.02	0.00	-0.0899	-0.1693	-0.0031	-0.0153	-0.0055	0.2463	0.1021	0.1442	1.8845	
3	-2.01	0.00	-0.0879	-0.1698	-0.0043	-0.0157	-0.0055	0.2470	0.1130	0.1340	1.9311	
4	-1.01	0.00	-0.0425	-0.0869	-0.0041	-0.0127	-0.0058	0.2443	0.1058	0.1386	2.0428	
5	0.00	0.00	0.0024	0.0054	-0.0038	-0.0114	-0.0080	0.2412	0.1026	0.1397	2.2351	
6	1.02	0.00	0.0441	0.1014	-0.0021	-0.0105	-0.0085	0.2419	0.1018	0.1401	2.3005	
7	2.04	0.00	0.0955	0.1626	-0.0004	-0.0094	-0.0073	0.2434	0.1023	0.1411	1.9114	
8	3.04	0.00	0.1373	0.2767	-0.0025	-0.0071	-0.0097	0.2459	0.1138	0.1321	2.0158	
9	4.04	0.00	0.1839	0.3684	-0.0007	-0.0081	-0.0103	0.2490	0.1165	0.1324	2.0029	
10	5.06	0.00	0.2330	0.4574	-0.0002	-0.0072	-0.0109	0.2542	0.1038	0.1504	1.9634	
11	6.07	0.00	0.2806	0.5494	-0.0010	-0.0024	-0.0114	0.2574	0.1288	0.1286	1.9576	
12	8.13	-0.00	0.4001	0.6960	0.0028	-0.0025	-0.0126	0.2678	0.1415	0.1262	1.7397	
13	10.14	-0.00	0.5389	0.8185	0.0020	-0.0024	-0.0119	0.2710	0.1530	0.1180	1.5193	
14	12.19	-0.00	0.6974	0.9486	0.0095	-0.0033	-0.0133	0.2697	0.1652	0.1045	1.3602	
15	15.25	-0.00	0.9569	1.1588	0.0011	0.0239	-0.0115	0.2596	0.1750	0.0847	1.2110	
16	18.31	-0.00	1.2621	1.3797	0.0191	-0.0021	-0.0139	0.2465	0.1946	0.0519	1.0932	
17	21.35	-0.00	1.5991	1.6124	0.0363	-0.0303	-0.0112	0.2253	0.2134	0.0120	1.0086	
18	24.46	-0.00	2.0241	1.8512	0.0620	-0.0806	-0.0090	0.1913	0.2289	-0.0377	0.9128	
19	27.55	-0.00	2.4779	2.0301	0.1726	-0.3000	-0.0059	0.1492	0.2455	-0.0962	0.8193	
20	30.61	-0.00	2.9643	2.1477	0.3550	-0.6659	-0.0040	0.0997	0.2317	-0.1320	0.7197	
21	15.22	-0.00	0.9337	1.2436	-0.0041	0.0318	-0.0008	0.2581	0.2113	0.0468	1.3319	
22	5.06	0.00	0.2139	0.5265	-0.0016	-0.0069	-0.0020	0.2465	0.1418	0.1047	2.4616	
23	0.00	0.00	-0.0082	0.0603	-0.0014	-0.0149	-0.0009	0.2334	0.1111	0.1223	-7.3367	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 197 0.85 2.3 0.0 84W0F0 0.0 OFF OFF OFF OFF UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	0.00	0.00	0.0020	0.0393	-0.0013	-0.0187	-0.0009	0.2334	0.1052	0.1781	19.2288
2	-2.02	0.00	-0.0911	-0.1425	-0.0006	-0.0290	-0.0001	0.2394	0.0917	0.1477	1.5643
3	-2.02	0.00	-0.0944	-0.1445	-0.0019	-0.0205	-0.0001	0.2385	0.1157	0.1229	1.5310
4	-1.03	0.00	-0.0458	-0.0633	-0.0016	-0.0175	-0.0004	0.2344	0.1089	0.1255	1.3839
6	2.02	0.00	0.0401	0.2067	-0.0004	-0.0130	-0.0014	0.2329	0.1165	0.1164	2.2944
7	2.02	0.00	0.0445	0.2053	0.0008	-0.0147	-0.0019	0.2334	0.1059	0.1276	2.2938
8	3.03	0.00	0.1343	0.2923	-0.0012	-0.0125	-0.0007	0.2359	0.1091	0.1268	2.1769
9	4.04	0.00	0.1832	0.3760	0.0006	-0.0093	-0.0030	0.2398	0.1127	0.1271	2.0521
10	5.06	0.00	0.2292	0.4723	-0.0002	-0.0066	-0.0019	0.2434	0.1200	0.1234	2.0604
11	6.06	0.00	0.2844	0.5544	-0.0004	-0.0041	-0.0025	0.2514	0.1235	0.1279	1.9478
12	8.13	-0.00	0.4031	0.7110	0.0053	-0.0034	-0.0036	0.2609	0.1384	0.1225	1.7638
13	10.16	-0.00	0.5418	0.8318	0.0078	-0.0060	-0.0048	0.2625	0.1507	0.1118	1.5353
14	12.19	-0.00	0.7035	0.9674	0.0071	0.0010	-0.0043	0.2616	0.1641	0.0975	1.3752
15	15.25	-0.00	0.9621	1.1786	-0.0082	0.0418	-0.0061	0.2526	0.1811	0.0715	1.2250
16	18.30	-0.00	1.2799	1.4050	0.0214	-0.0068	-0.0053	0.2410	0.1993	0.0417	1.0978
17	21.37	-0.00	1.6348	1.6504	0.0294	-0.0214	-0.0028	0.2203	0.2162	0.0041	1.0095
18	24.45	-0.00	2.0553	1.8932	0.0736	-0.1011	-0.0010	0.1858	0.2223	-0.0365	0.9211
19	27.59	-0.01	2.5525	2.1064	0.1566	-0.2455	0.0003	0.1448	0.2352	-0.0904	0.8252
20	30.64	-0.01	3.1120	2.3230	0.2493	-0.3506	0.0019	0.0976	0.2435	-0.1459	0.7465
21	15.22	-0.00	0.9445	1.2573	-0.0048	0.0310	0.0023	0.2583	0.2202	0.0381	1.3312
22	4.67	0.00	0.2084	0.5181	0.0008	-0.0079	0.0049	0.2506	0.1453	0.1053	2.4864
23	-0.01	0.00	-0.0128	0.0608	-0.0014	-0.0143	0.0078	0.2339	0.1015	0.1324	-4.7471



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 198 0.92 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 84W0F0 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-2.03	0.00	-0.0955	-0.1501	-0.0030	-0.0216	0.0097	0.2378	0.1114	0.1264	1.5708
2	-1.02	0.00	-0.0453	-0.0725	-0.0015	-0.0185	0.0078	0.2331	0.1123	0.1208	1.6021
3	-0.01	0.00	0.0021	0.0166	-0.0024	-0.0141	0.0074	0.2312	0.1067	0.1246	0.0291
4	1.02	0.00	0.0515	0.1072	-0.0019	-0.0152	0.0068	0.2321	0.1106	0.1215	2.0800
5	2.04	0.00	0.0413	0.1956	-0.0026	-0.0089	0.0064	0.2345	0.1132	0.1212	2.1427
6	3.05	0.00	0.1403	0.2833	-0.0010	-0.0116	0.0057	0.2375	0.1179	0.1195	2.0190
7	4.05	0.00	0.1886	0.3666	-0.0005	-0.0108	0.0052	0.2412	0.1161	0.1251	1.9435
8	5.08	0.00	0.2359	0.4615	0.0012	-0.0077	0.0046	0.2466	0.1180	0.1287	1.9564
9	6.10	0.00	0.2889	0.5485	-0.0017	-0.0039	0.0056	0.2548	0.1288	0.1260	1.8987
10	8.14	-0.00	0.4141	0.6954	0.0030	-0.0016	0.0045	0.2690	0.1410	0.1260	1.6791
11	10.17	-0.00	0.5537	0.8236	0.0090	-0.0068	0.0032	0.2705	0.1560	0.1145	1.4073
12	12.21	-0.00	0.7204	0.9622	0.0084	-0.0041	0.0019	0.2720	0.1704	0.1016	1.3347
13	15.25	-0.00	0.9937	1.1882	0.0044	0.0160	0.0015	0.2632	0.1927	0.0706	1.1958
14	18.30	-0.00	1.3087	1.4184	0.0178	-0.0003	0.0023	0.2516	0.2080	0.0437	1.0838
15	21.43	-0.00	1.6971	1.6966	0.0196	0.0754	0.0046	0.2324	0.2190	0.0134	0.9997
16	24.54	-0.00	2.1881	2.0111	-0.0178	0.0530	0.0060	0.2066	0.2374	-0.0308	0.9191
17	27.67	-0.01	2.7803	2.4878	0.1121	-0.1241	0.0057	0.1688	0.2459	-0.0771	0.8948
18	30.86	-0.02	3.6067	3.3747	0.1749	-0.0379	0.0064	0.1370	0.2493	-0.1123	0.9357
19	30.85	-0.02	3.5818	3.3391	0.1666	-0.0119	0.0088	0.1338	0.2565	-0.1226	0.9322
20	15.25	-0.00	0.9637	1.2781	0.0030	0.0164	0.0128	0.2697	0.2324	0.0373	1.3263
21	5.08	0.00	0.2106	0.5331	-0.0013	-0.0019	0.0160	0.2529	0.1772	0.0757	2.5387
22	0.00	0.00	-0.0214	0.0709	-0.0026	-0.0136	0.0172	0.2350	0.1356	0.0994	-3.3106

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC) PROPULSION WIND TUNNEL FACILITY(PWT) AERODYNAMIC WIND TUNNEL(4T)  
 PAGE 1 OF 1 MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART MACH RX10-6 PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
1 199 0.98 2.3 0.0 B400F0 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-2.03	0.00	-0.0008	-0.1776	-0.0017	-0.0169	0.0187	0.2610	0.1236	0.1373	1.9992
2	-1.02	0.00	-0.0011	-0.0424	-0.0014	-0.0180	0.0168	0.2530	0.1249	0.1281	2.2492
3	0.00	0.00	0.0065	0.0015	-0.0033	-0.0120	0.0165	0.2560	0.1274	0.1286	0.2397
4	1.03	0.00	0.0535	0.0916	-0.0028	-0.0111	0.0159	0.2546	0.1223	0.1322	1.7130
5	2.02	0.00	0.1019	0.1741	-0.0012	-0.0063	0.0153	0.2581	0.1121	0.1460	1.7085
6	3.06	0.00	0.1509	0.2663	-0.0040	-0.0045	0.0147	0.2642	0.1269	0.1373	1.7652
7	4.07	0.00	0.2005	0.3575	-0.0056	0.0014	0.0157	0.2695	0.1281	0.1413	1.7829
8	5.10	0.00	0.2516	0.4483	0.0003	0.0018	0.0152	0.2768	0.1387	0.1381	1.7813
9	6.09	0.00	0.3091	0.5302	-0.0012	0.0057	0.0145	0.2906	0.1441	0.1465	1.7153
10	8.14	-0.00	0.4292	0.6907	0.0087	-0.0016	0.0149	0.3040	0.1582	0.1458	1.6093
11	10.18	-0.00	0.5635	0.8336	0.0177	-0.0129	0.0119	0.3186	0.1695	0.1491	1.4288
12	12.18	-0.00	0.7436	0.9720	0.0150	-0.0053	0.0122	0.3150	0.1871	0.1280	1.3071
13	15.25	-0.00	1.0359	1.2270	0.0137	0.0074	0.0115	0.3157	0.2011	0.1146	1.1845
14	18.36	-0.00	1.3979	1.4961	-0.0018	0.0699	0.0108	0.3076	0.2290	0.0785	1.0703
15	21.48	-0.01	1.8720	1.6341	0.0491	-0.0235	0.0114	0.2877	0.2436	0.0440	0.9798
16	24.65	-0.01	2.5038	2.3256	0.0477	-0.0201	0.0096	0.2650	0.2577	0.0074	0.9288
17	27.80	-0.01	3.3237	3.0931	0.0874	-0.0245	0.0081	0.2387	0.2723	-0.0337	0.9306
18	31.05	-0.02	4.1508	3.8685	0.1569	-0.0062	0.0068	0.2140	0.2864	-0.0724	0.9328
19	15.28	-0.00	1.0177	1.2817	0.0168	0.0031	0.0160	0.3193	0.2433	0.0760	1.2595
20	5.09	0.00	0.2393	0.4978	-0.0041	0.0122	0.0198	0.2837	0.1986	0.0850	2.0802
21	0.00	0.00	0.0019	0.0196	-0.0011	-0.0076	0.0212	0.2548	0.1390	0.1159	10.6055

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEOC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 200 1.10 2.3			0.0	B4=0F0	0.0	OFF	OFF	OFF	OFF	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAP	XCP
1	-2.02	0.00	-0.0956	-0.1696	-0.0045	-0.0012	0.0155	0.4267	0.1728	0.2538	1.7730
2	-2.02	0.00	-0.0947	-0.1722	-0.0065	0.0000	0.0169	0.4280	0.1790	0.2490	1.8777
3	-1.03	0.00	-0.0459	-0.0786	-0.0091	0.0171	0.0167	0.4261	0.1765	0.2496	1.7108
4	-0.01	-0.00	0.0071	0.0164	-0.0137	0.0337	0.0150	0.4265	0.1774	0.2491	2.3543
5	1.00	-0.00	0.0560	0.1216	-0.0093	0.0239	0.0143	0.4261	0.1822	0.2439	2.1729
6	2.03	-0.00	0.1023	0.2266	-0.0107	0.0345	0.0137	0.4293	0.1775	0.2518	2.2147
7	3.08	-0.00	0.1507	0.3396	-0.0063	0.0230	0.0116	0.4310	0.1847	0.2464	2.2544
8	4.07	-0.00	0.2000	0.4384	-0.0087	0.0384	0.0124	0.4413	0.1821	0.2591	2.1919
9	5.08	-0.00	0.2546	0.5447	-0.0053	0.0284	0.0117	0.4481	0.1940	0.2541	2.1394
10	6.12	-0.00	0.3134	0.6508	-0.0076	0.0405	0.0111	0.4622	0.1970	0.2652	2.0763
11	8.15	-0.00	0.4394	0.8383	0.0006	0.0268	0.0097	0.4745	0.2110	0.2635	1.9088
12	10.20	-0.00	0.5996	0.9972	0.0057	0.0278	0.0097	0.4827	0.2209	0.2618	1.6638
13	12.26	-0.00	0.7828	1.1503	0.0051	0.0305	0.0082	0.4840	0.2389	0.2451	1.4694
14	12.26	-0.00	0.7864	1.1422	0.0070	0.0242	0.0082	0.4840	0.2572	0.2268	1.4525
15	15.36	-0.00	1.1047	1.4511	0.0005	0.0536	0.0057	0.4829	0.2591	0.2238	1.3136
16	18.47	-0.01	1.5151	1.7911	0.0037	0.0774	0.0042	0.4752	0.2756	0.1996	1.1822
17	21.61	-0.01	2.0957	2.1521	0.0371	0.0309	0.0042	0.4577	0.2893	0.1685	1.0269
18	24.60	-0.01	2.8632	2.6104	0.0376	0.0344	0.0017	0.4409	0.2949	0.1460	0.9117
19	27.96	-0.01	3.7370	3.0324	0.0514	0.0544	-0.0007	0.4270	0.3102	0.1168	0.8116
20	31.18	-0.01	4.5645	3.3275	0.0209	0.1094	-0.0025	0.4169	0.3190	0.0980	0.7290
21	15.35	-0.00	1.0882	1.4797	0.0042	0.0430	0.0085	0.4847	0.3118	0.1729	1.3597
23	0.00	-0.00	-0.0032	0.0634	-0.0108	0.0230	0.0133	0.4289	0.2112	0.2177	-19.7511

POINT	TEST PART MACH RX10-6			PHI CONF		L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
	1	201	1.20	2.3	0.0	0.4W0F0	0.0	OFF	CFF	OFF	OFF	UNKNOWN
	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP	
1	-2.03	0.00	-0.0901	-0.1195	-0.0054	0.0077	0.0092	0.4346	0.1480	0.2866	1.2061	
2	-1.03	0.00	-0.0444	-0.0194	-0.0051	0.0048	0.0049	0.4305	0.1510	0.2795	0.3883	
3	0.03	0.00	0.0006	0.0947	-0.0056	0.0057	0.0083	0.4270	0.1533	0.2737	170.0089	
4	0.03	0.00	0.0005	0.0982	-0.0056	0.0073	0.0070	0.4282	0.1552	0.2730	193.5221	
5	1.02	0.00	0.0451	0.2083	-0.0052	0.0067	0.0077	0.4283	0.1552	0.2731	4.6209	
6	2.07	-0.00	0.0930	0.3226	-0.0037	0.0096	0.0070	0.4289	0.1549	0.2741	3.4696	
7	3.06	-0.00	0.1426	0.4277	-0.0047	0.0120	0.0050	0.4331	0.1562	0.2769	2.9989	
8	4.06	-0.00	0.1922	0.5407	-0.0027	0.0101	0.0057	0.4392	0.1589	0.2804	2.8124	
9	5.09	-0.00	0.2448	0.6500	-0.0022	0.0111	0.0050	0.4466	0.1641	0.2825	2.6551	
10	6.13	-0.00	0.3054	0.7564	-0.0016	0.0137	0.0043	0.4572	0.1683	0.2869	2.4782	
11	8.20	-0.00	0.4450	0.9457	0.0046	0.0087	0.0043	0.4692	0.1765	0.2927	2.1250	
12	10.22	-0.00	0.5136	1.1015	0.0081	0.0027	0.0020	0.4753	0.1854	0.2899	1.7951	
13	12.31	-0.00	0.6116	1.2917	0.0129	0.0037	0.0011	0.4791	0.1985	0.2806	1.5915	
14	15.39	-0.00	1.1604	1.5881	0.0024	0.0420	0.0000	0.4813	0.2167	0.2646	1.3686	
15	18.53	-0.01	1.6420	1.9397	0.0072	0.0524	-0.0021	0.4820	0.2323	0.2497	1.1813	
16	21.71	-0.01	2.3286	2.3566	0.0308	0.0081	-0.0031	0.4741	0.2514	0.2227	1.0120	
17	24.85	-0.01	3.1142	2.7130	0.0452	0.0142	-0.0065	0.4639	0.2655	0.1983	0.8712	
18	28.05	-0.01	4.0201	2.8913	0.0641	-0.0094	-0.0074	0.4566	0.2734	0.1833	0.7192	
19	31.25	-0.01	4.9367	2.9238	0.0237	0.0689	-0.0087	0.4366	0.2848	0.1518	0.5923	
20	15.37	-0.00	1.1411	1.6381	0.0003	0.0414	0.0026	0.4828	0.2775	0.2053	1.4356	
21	15.37	-0.00	1.1411	1.6291	0.0022	0.0190	0.0012	0.4819	0.2655	0.2164	1.4277	
22	5.10	-0.00	0.2351	0.6883	-0.0023	0.0097	0.0035	0.4525	0.2228	0.2297	2.9282	
23	0.01	0.00	-0.0151	0.1346	-0.0030	0.0018	0.0041	0.4320	0.1921	0.2399	-8.9299	

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6											
1 202 1.30 2.3											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.4000 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-2.03	0.00	-0.0852	-0.1603	0.0013	-0.0171	0.0049	0.4147	0.1287	0.2860	1.8813
2	-0.94	0.00	-0.0376	-0.0424	-0.0022	-0.0107	0.0046	0.4101	0.1362	0.2739	1.1382
3	-0.00	0.00	0.0084	0.0787	-0.0018	-0.0095	0.0027	0.4093	0.1473	0.2619	9.4093
4	1.04	0.00	0.0572	0.2071	0.0015	-0.0044	0.0021	0.4114	0.1541	0.2572	3.6185
5	2.07	0.00	0.1059	0.3294	-0.0063	0.0057	0.0014	0.4123	0.1541	0.2582	3.1142
6	3.06	-0.00	0.1569	0.4517	0.0007	0.0117	0.0008	0.4159	0.1539	0.2621	2.8792
7	4.12	0.00	0.2072	0.5758	-0.0054	0.0032	-0.0001	0.4210	0.1562	0.2648	2.7798
8	5.12	-0.00	0.2630	0.6926	0.0018	0.0155	-0.0006	0.4303	0.1602	0.2701	2.6331
9	6.11	-0.00	0.3203	0.8061	-0.0078	0.0219	-0.0014	0.4393	0.1648	0.2745	2.5166
10	7.21	-0.00	0.4655	1.0151	0.0002	0.0192	-0.0015	0.4497	0.1750	0.2746	2.1885
11	10.23	-0.01	0.6393	1.1957	0.0141	0.0226	-0.0029	0.4571	0.1856	0.2715	1.8702
12	12.31	-0.01	0.8446	1.3953	0.0152	0.0276	-0.0033	0.4627	0.1961	0.2685	1.6519
13	15.40	-0.01	1.2269	1.7008	-0.0068	0.0748	-0.0060	0.4679	0.2101	0.2578	1.3862
14	18.54	-0.01	1.8005	2.0272	0.0107	0.0453	-0.0088	0.4723	0.2245	0.2479	1.1259
15	21.76	-0.01	2.5235	2.4220	0.0262	0.0473	-0.0109	0.4739	0.2421	0.2317	0.9598
16	24.97	-0.01	3.3675	2.6543	0.0297	0.0337	-0.0118	0.4698	0.2561	0.2137	0.7882
17	28.15	-0.01	4.2907	2.7024	0.0211	0.0741	-0.0147	0.4722	0.2656	0.2066	0.6299
18	31.32	-0.01	5.2780	2.4102	0.0266	0.0375	-0.0146	0.4630	0.2778	0.1853	0.4567
19	35.42	-0.01	1.2758	1.7416	-0.0077	0.0797	-0.0061	0.4706	0.2768	0.1938	1.4208
20	5.12	-0.00	0.2564	0.7293	0.0024	0.0142	-0.0047	0.4342	0.2407	0.1934	2.8443
21	0.01	0.00	0.0043	0.1041	0.0010	-0.0054	-0.0040	0.4150	0.2135	0.2015	24.1338

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
1 205 0.50 VARY 0.0 84=0F0 0.0 OFF OFF OFF OFF UNKNOWN												
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP	RX10-6
1	23.59	-0.00	2.0223	2.0445	0.0727	-0.0185	-0.0812	0.1358	0.2672	-0.1314	1.0110	0.631
2	22.58	-0.00	1.9150	1.8588	0.0781	-0.0533	-0.0803	0.0792	0.1899	-0.1108	0.9706	0.612
3	23.47	-0.00	2.1139	2.0181	0.0745	-0.0311	-0.0728	0.0463	0.2235	-0.1773	0.9547	0.606
4	23.46	-0.00	1.8167	1.7783	-0.0453	0.1566	-0.0556	0.0707	0.3966	-0.3259	0.9789	0.805
5	23.48	-0.00	1.8134	1.7742	-0.0194	0.1187	-0.0556	0.0705	0.2964	-0.2259	0.9784	0.800
6	23.51	-0.00	1.5957	1.4044	-0.0616	0.2557	-0.0186	0.1492	0.2955	-0.1463	0.8801	1.228
7	23.51	-0.00	1.5744	1.4021	-0.0400	0.2530	-0.0132	0.1479	0.2693	-0.1214	0.8906	1.237
8	23.56	-0.00	1.4431	1.5226	-0.0361	0.1512	0.0119	0.1517	0.2223	-0.0706	0.9267	1.634
9	23.56	-0.00	1.6518	1.5020	-0.0410	0.1580	0.0119	0.1488	0.2204	-0.0716	0.9093	1.637
10	23.49	-0.00	1.6512	1.5009	-0.0206	0.1015	0.0115	0.1451	0.2204	-0.0753	0.9090	1.633
11	23.58	-0.00	1.7287	1.6555	-0.0515	0.1325	0.0178	0.1664	0.2257	-0.0593	0.9577	2.307
12	23.49	-0.00	1.7199	1.6612	-0.0463	0.1552	0.0182	0.1693	0.2208	-0.0515	0.9659	2.305
13	23.59	-0.00	1.7442	1.6954	0.1060	-0.1920	0.0130	0.1779	0.2278	-0.0500	0.9602	3.109
14	23.48	0.00	1.7531	1.6854	0.0847	-0.1721	0.0148	0.1803	0.2295	-0.0493	0.9614	3.206
15	23.54	-0.00	1.7904	1.7253	0.0615	-0.0930	0.0153	0.1873	0.2246	-0.0373	0.9637	4.549
16	23.48	-0.00	1.7739	1.7188	0.0576	-0.0780	0.0141	0.1874	0.2280	-0.0407	0.9689	4.544
17	23.47	-0.00	1.7795	1.7175	0.0651	-0.1064	0.0127	0.1869	0.2188	-0.0319	0.9651	4.526

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6												
1	206	0.95	VARY	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
				0.0	M4WDF0	0.0	OFF	OFF	OFF	OFF	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP	RX10-6
1	12.46	-0.00	0.7501	1.0301	0.0003	0.0248	0.0089	0.2909	0.1986	0.0923	1.3733	5.298
2	11.90	-0.00	0.7017	0.9856	-0.0007	0.0251	0.0072	0.2961	0.2222	0.0739	1.4046	5.291
3	12.02	-0.00	0.7149	0.9940	-0.0014	0.0247	0.0048	0.2983	0.2152	0.0831	1.3904	5.055
4	12.02	-0.00	0.7146	0.9913	-0.0009	0.0248	0.0048	0.2965	0.2043	0.0922	1.3873	5.072
5	12.04	-0.00	0.7169	0.9904	-0.0010	0.0266	0.0022	0.2974	0.1984	0.0990	1.3815	5.259
6	11.97	-0.00	0.7133	0.9921	0.0004	0.0254	0.0031	0.2986	0.2054	0.0932	1.3909	4.528
7	11.97	-0.00	0.7096	0.9900	-0.0002	0.0270	0.0031	0.2986	0.2010	0.0976	1.3948	4.557
8	11.77	-0.00	0.6891	0.9831	0.0048	0.0204	0.0086	0.2971	0.2151	0.0820	1.4266	2.279
9	11.99	-0.00	0.7083	0.9970	0.0050	0.0186	0.0084	0.2941	0.1911	0.1030	1.4077	2.285
10	11.99	-0.00	0.7097	0.9935	0.0061	0.0169	0.0085	0.2927	0.1832	0.1095	1.3998	2.271
11	11.92	-0.00	0.6723	1.0165	0.0037	0.0261	0.0166	0.2833	0.1996	0.0837	1.5120	1.513
12	11.92	-0.00	0.6769	1.0089	0.0054	0.0235	0.0165	0.2795	0.2139	0.0656	1.4904	1.520

ARNOLD ENGINEERING DEVELOPMENT CENTER(AECC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(47)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6												
1 207 1.30 VARY 0.0 8440FO 0.0 DEL1 DEL2 DEL3 DEL4 TRANSITION												
1 OFF OFF OFF OFF UNKNOWN												
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	RCP	RX10-6
1	9.20	-0.00	0.5245	1.1011	0.0141	0.0190	0.0133	0.4641	0.2025	0.2616	2.0991	2.305
2	9.00	-0.00	0.5046	1.0931	-0.0016	0.0182	0.0147	0.4639	0.2150	0.2449	2.1662	2.300
3	9.07	-0.00	0.5162	1.1103	0.0004	0.0284	0.0131	0.4710	0.2339	0.2371	2.1509	3.111
4	8.97	-0.00	0.5080	1.1032	-0.0012	0.0281	0.0143	0.4700	0.2273	0.2427	2.1718	3.093
5	9.24	-0.01	0.5256	1.1535	0.0007	0.0373	0.0075	0.4712	0.2373	0.2339	2.1946	5.807
6	9.03	-0.00	0.5066	1.1380	-0.0063	0.0310	0.0076	0.4707	0.2383	0.2323	2.2454	5.808
7	9.02	-0.01	0.5072	1.1375	-0.0029	0.0312	0.0082	0.4698	0.2359	0.2339	2.2428	5.796



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART PACM RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 210 0.40 3.9 0.0 84W0F0 0.0 OFF OFF OFF OFF UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	30.51	0.00	2.6615	2.0592	0.4118	-0.8992	0.0183	-0.0971	0.2408	-0.3378	0.7737
2	30.02	0.00	2.5871	2.0371	0.4067	-0.8756	0.0184	-0.0876	0.2594	-0.3470	0.7874
3	30.02	0.00	2.5985	2.0457	0.3998	-0.8546	0.0132	-0.0887	0.2458	-0.3345	0.7873

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
1 211 0.60 3.9 0.0 H4W0F0 0.0 OFF OFF OFF OFF UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	30.27	-0.00	2.7714	2.2172	0.3440	-0.6699	0.0071	-0.0290	0.2473	-0.2764	0.8000
2	29.97	-0.00	2.7112	2.2030	0.2803	-0.5605	0.0051	-0.0233	0.2426	-0.2659	0.8120
3	29.95	-0.00	2.7005	2.1997	0.3009	-0.5970	0.0072	-0.0274	0.2574	-0.2840	0.8140

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (4T)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART MACH RX10-6											
1 212 0.86 3.9											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 64W0F0 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP
1	30.27	-0.01	3.0368	2.5864	0.2945	-0.4910	0.0043	0.0039	0.2181	-0.2142	0.8517
2	30.05	-0.01	2.9853	2.5520	0.2717	-0.4600	0.0069	0.0073	0.2576	-0.2503	0.8549
3	30.06	-0.01	2.9891	2.5517	0.2716	-0.4636	0.0065	0.0092	0.2579	-0.2487	0.8537

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
1 213 1.00 3.9 0.0 8400F0 0.0 OFF OFF OFF OFF UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	30.41	-0.02	3.9724	3.9814	0.0564	0.0444	0.0013	0.0811	0.2874	-0.2063	1.0024
2	30.11	-0.02	4.0463	3.8652	0.0963	-0.0147	0.0047	0.2255	0.2967	-0.0712	0.9548
3	30.10	-0.02	4.0402	3.8555	0.1000	-0.0162	0.0047	0.2258	0.3062	-0.0804	0.9543
4	30.10	-0.02	4.0392	3.8837	0.0905	-0.0107	0.0047	0.2157	0.3070	-0.0913	0.9615

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (4T)  
 PAGE 1 OF 1  
 SHEET 1 OF 1

TEST PART WACH RX10-6				PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1 214 1.24 3.9				0.0	W4W0F6	0.0	OFF	OFF	OFF	OFF	UNKNOWN	
POINT	ALPHA	BETA	CN	CLM	CY	CLW	CLL	CA	CAB	CAF	XCP	
1	30.37	-0.02	4.8000	3.1388	0.0660	-0.0056	0.0050	0.3881	0.3347	0.0535	0.6539	
2	29.93	-0.02	4.6294	3.1935	0.0727	-0.0052	0.0064	0.3945	0.3276	0.0668	0.6898	
3	29.94	-0.02	4.6596	3.1252	0.0657	-0.0013	0.0046	0.3979	0.3328	0.0651	0.6707	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)    PROPULSION WIND TUNNEL FACILITY(PWT)    AERODYNAMIC WIND TUNNEL(4T)  
 PAGE 1 OF 1    MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART MACH RX10-6    PHI    CONF    L    DEL1    DEL2    DEL3    DEL4    TRANSITION  
 1    215 1.10 2.0    0.0    0.0000    0.0    OFF    OFF    OFF    OFF    UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	28.83	-0.00	3.9094	3.3118	-0.0499	0.1366	0.0135	0.2292	0.3306	-0.1014	0.8471
2	29.03	0.00	3.9442	3.3434	-0.0574	0.1304	0.0138	0.2260	0.3178	-0.0918	0.8477
3	29.04	-0.00	3.9611	3.3275	-0.0485	0.1353	0.0134	0.2273	0.3236	-0.0962	0.8401
4	30.06	0.00	4.1667	3.4975	-0.0164	-0.0110	0.0115	0.2172	0.3073	-0.0902	0.8394
5	30.08	0.01	4.2320	3.4083	-0.0409	0.0146	0.0106	0.2209	0.3259	-0.1050	0.8094

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEBC) PROPULSION WIND TUNNEL FACILITY (PWT) AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1  
 SHEET 1 OF 1

TEST PART MACH RX10-6												
1 214 1.04 2.0												
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
0.0 0.4000 0.0 OFF OFF OFF OFF UNKNOWN												
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP	
1	30.26	-0.00	4.1368	3.7988	0.0022	0.0240	0.0124	0.0889	0.4041	-0.3152	0.9183	
2	30.11	-0.01	4.0828	4.0020	-0.0105	0.1288	0.0104	0.1571	0.3875	-0.2304	0.8882	
3	30.06	0.00	4.0722	3.6358	-0.0514	0.0640	0.0085	0.0732	0.3171	-0.2438	0.8928	
4	30.05	0.00	4.0601	3.6286	-0.0489	0.0646	0.0086	0.0679	0.2908	-0.2229	0.8937	

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6  
1 217 0.80 2.0  
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
0.0 0.0 0.0 0.0 OFF OFF OFF OFF UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAP	ACP
1	29.64	-0.00	2.7667	2.2796	0.1467	-0.2196	0.0203	-0.1174	0.2844	-0.4018	0.8230
2	30.01	-0.00	2.8437	2.2886	0.0484	-0.0170	0.0178	-0.1163	0.2676	-0.3838	0.8048
3	30.01	-0.00	2.8523	2.2966	0.0323	0.0118	0.0179	-0.1150	0.2580	-0.3730	0.8052



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(4T)  
 PAGE 1 OF 1  
 SHEET 1 OF 1

TEST PART NACH RX10-6      PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 1 218 0.60 2.0 0.0 H4WDF0 0.0 OFF OFF OFF OFF UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAR	CAF	XCP
1	29.86	-0.00	2.5080	2.0915	-0.0404	0.1342	0.0205	-0.1805	0.2194	-0.3999	0.8339
2	29.97	-0.00	2.5413	2.0901	-0.0897	0.2409	0.0203	-0.1778	0.2811	-0.4590	0.8229
3	29.98	-0.00	2.5565	2.1049	-0.1050	0.2820	0.0176	-0.1734	0.2501	-0.4235	0.8234

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10-6 PWI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
1 219 0.40 2.0 0.0 H4W0F0 0.0 OFF OFF OFF OFF UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	29.95	0.00	2.4116	1.9066	0.3185	-0.7330	0.0153	-0.2772	0.2436	-0.5208	0.7906
2	29.95	0.00	2.4230	1.8980	0.3170	-0.7669	0.0116	-0.2833	0.2058	-0.4891	0.7833

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART	MACH	REX10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
1	220	0.20	2.0	0.0	84-010	0.0	OFF	OFF	OFF	OFF	UNKNOWN

POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAR	CAF	ACP
1	29.93	0.00	2.2269	1.7614	0.5730	-1.3853	0.0340	-0.6555	0.2958	-0.9514	0.7910
2	29.92	0.00	2.3717	1.8677	0.4855	-1.2418	0.0380	-0.7064	0.2731	-0.9795	0.7875

TEST PART MACH RX10-6											
1 223 0.40 3.8											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.4000 0.0 OFF OFF OFF OFF UNKNOWN											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	0.00	0.00	0.0128	0.0368	-0.0092	0.0047	0.0108	0.2169	0.0984	0.1185	2.8665
2	0.00	0.00	0.0100	0.0357	-0.0078	0.0050	0.0108	0.2160	0.1048	0.1112	3.5536
3	1.02	0.00	0.0521	0.1287	-0.0102	0.0075	0.0103	0.2176	0.0912	0.1364	2.4679
4	1.02	0.00	0.0569	0.1238	-0.0087	0.0078	0.0121	0.2161	0.1091	0.1070	2.1772
5	2.04	0.00	0.0948	0.2243	-0.0099	0.0108	0.0119	0.2198	0.0920	0.1278	2.3658
6	3.04	0.00	0.1381	0.3172	-0.0092	0.0139	0.0131	0.2214	0.1051	0.1163	2.2961
7	4.06	0.00	0.1783	0.4195	-0.0102	0.0145	0.0144	0.2246	0.1111	0.1135	2.3525
8	5.07	0.00	0.2283	0.5147	-0.0099	0.0154	0.0158	0.2306	0.1134	0.1172	2.2539
9	6.06	0.00	0.2709	0.6052	-0.0093	0.0185	0.0152	0.2357	0.1185	0.1172	2.2341
10	8.10	-0.00	0.3778	0.7765	-0.0055	0.0232	0.0180	0.2468	0.1319	0.1150	2.0562
11	10.13	-0.00	0.5129	0.9045	-0.0041	0.0221	0.0187	0.2519	0.1505	0.1014	1.7634
12	12.16	-0.00	0.6587	1.0357	0.0028	0.0156	0.0155	0.2522	0.1672	0.0850	1.5723
13	14.21	-0.00	0.9064	1.2568	0.0294	-0.0265	0.0171	0.2489	0.1753	0.0736	1.3866
14	16.26	-0.00	1.1827	1.4754	0.0816	-0.1356	0.0160	0.2418	0.1994	0.0424	1.2475
15	21.32	0.00	1.5108	1.6279	0.2565	-0.5374	0.0184	0.2216	0.2255	-0.0048	1.0775
16	24.38	0.01	1.9301	1.6584	0.6980	-1.5148	0.0194	0.2078	0.2477	-0.0480	0.8594
17	27.44	-0.00	2.4940	1.3143	1.5023	-3.0519	0.0207	0.1919	0.2674	-0.0755	0.5270
18	30.52	-0.10	3.1346	0.8968	2.1724	-2.7427	0.0156	0.2259	0.3741	-0.1482	0.2861
19	15.21	-0.00	0.8990	1.2800	0.0264	-0.0336	0.0206	0.2505	0.1949	0.0556	1.4238
20	5.07	0.00	0.2138	0.5320	-0.0111	0.0126	0.0174	0.2283	0.1173	0.1110	2.4878
21	0.00	0.00	0.0047	0.0488	-0.0107	0.0022	0.0166	0.2167	0.0935	0.1232	10.4261

## **APPENDIX B**

### **TEST 2**

**AEDC-TR-75-125**

ANNUL ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      PART I: MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART NAME: RL100      PRI      LUNF      L      DEL1      DEL2      DEL3      DEL4      TRANSITION											
2      7      0.5V      0.4      0.0      0.0      OFF      OFF      OFF      OFF      FREE											
POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAR	CAF	XCP
1	0.57	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.64	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.67	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	1.33	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	2.38	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	3.32	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	4.35	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	5.38	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	6.34	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	7.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	8.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	9.34	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	1.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	11.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	12.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	13.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	14.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	15.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	16.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	17.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	18.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	19.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PNEUMATIC WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(AT)  
 PAGE 1 OF 1      MANTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART NAME: MANTIN											
2      A      0.54      0.7      0.0      0.3      0.0      0.0      0.0      0.0      0.0      0.0											
DEL1   DEL2   DEL3   DEL4   TRANSITION											
OFF   OFF   OFF   OFF   FREE											
POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAB	CAF	RCP
1	-1.57	0.0	-0.0750	-0.0314	-0.0005	-0.0025	-0.0145	0.3472	0.1267	0.2249	0.4226
2	-0.44	0.0	-0.0612	0.0574	-0.0015	-0.0174	-0.0132	0.3484	0.1523	0.1946	-1.3916
3	0.35	0.0	0.0142	0.1274	-0.0004	-0.0175	-0.0131	0.3471	0.1095	0.2376	7.0291
4	1.35	0.0	0.0000	0.2150	-0.00574	0.0001	-0.0146	0.3504	0.1154	0.2350	3.5926
5	2.34	0.0	0.0000	0.3425	-0.0000	0.0104	-0.0121	0.3553	0.1191	0.2362	3.8265
6	3.35	0.0	0.1440	0.3780	-0.0027	0.0017	-0.0147	0.3543	0.1292	0.2251	2.2302
7	4.34	0.0	0.2131	0.4067	-0.0030	0.0015	-0.0118	0.3623	0.1410	0.2213	2.1811
8	5.34	0.0	0.2840	0.4304	-0.0024	-0.0104	-0.0104	0.3543	0.1522	0.2041	2.7750
9	6.34	0.0	0.2424	0.4094	-0.0054	-0.0070	-0.0125	0.3635	0.1588	0.2047	2.3702
10	7.34	0.0	0.3454	0.7004	-0.0005	-0.0136	-0.0143	0.3744	0.1721	0.2023	2.0656
11	8.34	0.0	0.3401	0.4021	-0.0003	-0.0002	-0.0133	0.3768	0.1751	0.2017	2.4417
12	9.34	0.0	0.4400	0.4713	-0.0001	0.0007	-0.0156	0.3812	0.1925	0.1866	2.0070
13	10.34	0.0	0.5100	1.0043	-0.00377	-0.0157	-0.0152	0.3700	0.1771	0.1920	2.0457
14	11.34	0.0	0.5404	1.0014	-0.0000	-0.0007	-0.0144	0.3714	0.1719	0.1995	1.8195
15	12.34	0.0	0.5400	1.0000	-0.0001	-0.0109	-0.0149	0.3561	0.1671	0.1601	1.9401
16	13.34	0.0	0.4423	1.0013	-0.0014	-0.0137	-0.0142	0.3620	0.1823	0.1747	2.0571
17	14.34	0.0	0.7300	1.0057	-0.0037	-0.0124	-0.0146	0.3560	0.2018	0.1542	1.9934
18	15.34	0.0	0.8111	1.0000	-0.0004	-0.0134	-0.0173	0.3574	0.1448	0.1630	1.8488
19	16.34	0.0	0.3100	1.0073	-0.0000	-0.0043	-0.0104	0.3544	0.1661	0.2008	1.6027
20	17.34	0.0	1.0077	1.3634	-0.0071	-0.0070	-0.0144	0.3503	0.1966	0.1537	1.2770
21	18.34	0.0	1.2202	1.0014	-0.0057	-0.0011	-0.0200	0.3512	0.1963	0.1549	1.1021
22	19.34	0.0	1.0143	1.1470	0.0005	-0.0077	-0.0190	0.3397	0.2341	0.1057	0.8463



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROULSION AND JETTEL FACILITY (PMT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1  
 SHEET 1 OF 1  
 MANTLE MISSILE TAIL EFFECTS DATA

TEST: PARI PARM MAIN-B.      PARI CUME      L. JETTEL      JETTEL2      JETTEL3      JETTEL4      TRANSITION											
2      0.054 1.01      0.00 0.34000      0.00      OFF      OFF      OFF      OFF      FUEL											
POINT	ALPHA	FTL	CL	CLX	CLY	CLZ	CLL	CL	CLX	CLY	XCP
1	-1.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	-0.60	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-1.1017
3	0.30	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0760
4	1.33	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.6901
5	2.33	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2966
6	3.40	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.4396
7	4.35	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.5041
8	5.40	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.5381
9	6.35	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1655
10	7.40	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1457
11	8.40	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1116
12	9.45	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.9213
13	10.40	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.9336
14	11.40	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.7906
15	12.51	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5953
16	13.40	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.4711
17	14.50	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5030
18	15.53	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.3885
19	16.50	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.7178
20	17.43	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.7743
21	18.50	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.6575
22	19.57	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5784



ARJOLD ENGINEERING DEVELOPMENT CENTER (AEDC) PROPELLSION WIND TUNNEL FACILITY (PWTF) AERODYNAMIC WIND TUNNEL (AWT)  
 PAGE 1 OF 1  
 SHEET 1 OF 1

TEST	PARAM	NAME	PHI	CONF	L	CELL	DEL2	DEL3	DEL4	TRANSITION	
2	11	0.59 1.0	0.0	M3.076	0.0	OFF	OFF	OFF	OFF	FREE	
POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAR	CAF	XCP
1	-1.67	0.0	-0.000	-0.127	-0.030	-0.037	-0.032	0.270	0.135	0.145	2.3502
2	-0.47	0.0	-0.019	-0.110	-0.040	-0.047	-0.024	0.272	0.126	0.146	1.1930
3	0.32	0.0	0.030	0.113	-0.030	0.027	-0.024	0.272	0.123	0.140	2.3301
4	1.34	0.0	0.053	0.147	-0.030	0.037	-0.031	0.276	0.137	0.134	1.7558
5	2.35	0.0	0.122	0.202	-0.030	0.044	-0.030	0.281	0.143	0.137	2.3150
6	3.41	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.149	0.135	2.5190
7	4.46	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.152	0.137	2.3535
8	5.40	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.150	0.134	2.3055
9	6.43	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.150	0.140	2.1624
10	7.47	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.167	0.142	2.1976
11	8.51	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.175	0.141	2.0249
12	9.52	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.179	0.139	1.8753
13	10.51	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.180	0.124	1.7455
14	11.42	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.190	0.135	1.7379
15	12.50	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.197	0.175	1.5594
16	13.57	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.201	0.173	1.4871
17	14.62	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.200	0.113	1.4294
18	15.66	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.214	0.151	1.3757
19	16.66	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.223	0.058	1.3424
20	17.70	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.232	0.067	1.2917
21	18.72	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.233	0.079	1.2395
22	19.77	0.0	0.144	0.207	-0.030	0.040	-0.030	0.285	0.240	0.064	1.1511

TEST PART NAME: 17 C.54 2.0											
CUM 0.0 DEL1 OFF DEL2 OFF DEL3 OFF DEL4 OFF TRANSITION FREE											
POINT	ALPHA	HTA	CL	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.5050
2	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.3030
3	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.4000
4	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.7100
5	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0300
6	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2020
7	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2000
8	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.3030
9	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2370
10	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1900
11	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.9950
12	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.9510
13	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.7600
14	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.6500
15	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5500
16	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5030
17	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.4030
18	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.3700
19	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.3620
20	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.2920
21	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.2000
22	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.1020

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC) --- PROPULSION WIND TUNNEL FACILITY (PWTF) --- AERODYNAMIC WIND TUNNEL (ATF)  
 PAGE 1 OF 1  
 SHEET 1 OF 1  
 PARTIAL MISSILE TAIL EFFECTS DATA

TEST	PAWT	MACH	ALLOW	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
2	14	0.55	3.5	0.0	0.0	0.0	OFF	OFF	OFF	OFF	FREE
POINT	ALPHA	BETA	CL	CLM	CY	CLN	CLL	CA	CAR	CAF	ACP
1	-1.74	0.0	-0.101	-0.125	-0.0167	-0.0008	-0.0003	0.2400	0.1435	0.0965	2.0541
2	-0.00	0.0	-0.0000	-0.0101	-0.0100	0.0000	-0.0000	0.2378	0.1314	0.1000	0.4960
3	0.39	0.0	0.0200	0.0111	-0.0113	0.0000	-0.0000	0.2396	0.1200	0.1000	2.0400
4	1.39	0.0	0.0700	0.1700	-0.0101	0.0000	0.0000	0.2426	0.1450	0.0970	2.2807
5	2.65	0.0	0.1111	0.2974	-0.0173	0.0000	0.0000	0.2457	0.1500	0.0911	2.5257
6	3.42	0.0	0.1500	0.4000	-0.0140	0.0000	-0.0003	0.2507	0.1500	0.0900	2.5959
7	4.50	0.0	0.2000	0.5000	-0.0145	0.0000	-0.0000	0.2551	0.1600	0.0912	2.5220
8	5.53	0.0	0.2513	0.5170	-0.0170	0.0000	-0.0000	0.2595	0.1600	0.0926	2.4573
9	6.30	0.0	0.3140	0.7105	-0.0101	0.0000	-0.0000	0.2600	0.1735	0.0953	2.2950
10	7.42	0.0	0.3050	0.8210	-0.0100	0.0000	-0.0000	0.2765	0.1770	0.0947	2.2503
11	8.63	0.0	0.4311	0.8610	-0.0107	0.0000	-0.0000	0.2806	0.1802	0.1003	2.0452
12	9.00	0.0	0.5113	0.9020	-0.0100	0.0000	-0.0001	0.2845	0.1856	0.0909	1.9205
13	10.70	0.0	0.5000	1.0000	-0.0101	0.0000	-0.0001	0.2872	0.1915	0.0950	1.7700
14	11.77	0.0	0.5000	1.1000	-0.0100	0.0000	-0.0000	0.2915	0.1900	0.0900	1.6727
15	12.85	0.0	0.5000	1.2000	-0.0100	0.0000	-0.0000	0.2932	0.2017	0.0915	1.5971
16	13.40	0.0	0.5370	1.2500	-0.0100	0.0000	-0.0000	0.2947	0.2109	0.0900	1.5162
17	14.91	0.0	0.5200	1.3000	-0.0100	0.0000	-0.0000	0.2930	0.2170	0.0760	1.4710
18	15.40	0.0	1.0120	1.4000	-0.0100	0.0000	-0.0000	0.2927	0.2200	0.0600	1.4100
19	17.00	0.0	1.1200	1.5130	-0.0100	0.0000	-0.0000	0.2900	0.2300	0.0500	1.3000
20	18.00	0.0	1.2200	1.5000	-0.0100	0.0000	-0.0000	0.2900	0.2370	0.0400	1.3050
21	19.15	0.0	1.3300	1.6000	-0.0100	0.0000	-0.0000	0.2791	0.2300	0.0390	1.2400
22	20.20	0.0	1.4730	1.7330	0.0000	-0.0000	-0.0000	0.2722	0.2400	0.0260	1.1760

TEST PARI. VAL. 510-0. Pnl CUNE 1 CELL DEL2 DEL3 DEL4 TRANSITION											
2	15	0.59	4.3	0.0	3.00	0.0	OFF	OFF	OFF	OFF	FREE
POINT	ALPHA	MFA	CL	CLN	CT	CLN	CLL	CA	CAH	CAF	ACP
1	-1.71	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.2300	0.1031	0.0013	2.3393
2	-0.67	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.2370	0.1352	0.0048	0.7500
3	0.30	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2300	0.1356	0.0042	1.7867
4	1.41	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2345	0.1005	0.0050	2.2013
5	2.40	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2402	0.1500	0.0018	2.0035
6	3.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2443	0.1631	0.0012	2.5305
7	4.53	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2493	0.1661	0.0032	2.5735
8	5.45	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2500	0.1700	0.0000	2.4877
9	6.01	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2555	0.1742	0.0014	2.3678
10	7.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2713	0.1799	0.0013	2.1868
11	8.70	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2767	0.1861	0.0025	2.0963
12	9.70	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2709	0.1472	0.0017	1.9130
13	10.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2605	0.1933	0.0000	1.7862
14	11.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2852	0.1900	0.0000	1.6733
15	12.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2837	0.2000	0.0000	1.6000
16	14.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2400	0.2100	0.0000	1.5300
17	15.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2629	0.2170	0.0000	1.4803
18	16.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2819	0.2259	0.0000	1.4256
19	17.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2791	0.2312	0.0000	1.3367
20	18.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2750	0.2372	0.0000	1.2911
21	19.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2692	0.2418	0.0000	1.2240
22	20.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.2626	0.2457	0.0000	1.1741

AERGLU ENGINEERING DEVELOPMENT CENTER (ARDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST POINT MANTIN EXLUNG											
POINT	ALPHA	DELTA	CN	CLM	CY	CLL	DEL2	DEL3	DEL4	TRANSITION	
2	16	0.5V	0.0	0.0	0.0	OFF	OFF	OFF	OFF	FREE	
1	-1.72	0.0	-0.0540	-0.0114	-0.0107	-0.0154	-0.0030	0.2320	0.1444	0.0071	2.0107
2	-0.47	0.0	-0.0113	-0.0044	-0.0041	-0.0074	-0.0026	0.2241	0.1353	0.0034	0.4827
3	2.34	0.0	0.0322	0.0100	0.0034	0.0243	0.0024	0.2317	0.1373	0.0044	2.3426
4	1.43	0.0	0.0022	0.0004	-0.0033	0.0301	-0.0034	0.2334	0.1429	0.0007	2.1951
5	2.45	0.0	0.0120	0.0004	-0.0035	0.0350	-0.0034	0.2375	0.1601	0.0074	2.4412
6	3.53	0.0	0.0104	0.0100	-0.0037	0.0371	-0.0033	0.2423	0.1644	0.0075	2.4919
7	4.55	0.0	0.0204	0.0102	-0.0043	0.0404	-0.0024	0.2477	0.1670	0.0007	2.5605
8	5.63	0.0	0.0244	0.0000	-0.0024	0.0412	-0.0030	0.2551	0.1704	0.0045	2.4221
9	6.66	0.0	0.0314	0.0104	-0.0045	0.0406	-0.0032	0.2631	0.1772	0.0000	2.3997
10	7.72	0.0	0.0374	0.0300	-0.0024	0.0410	-0.0032	0.2648	0.1814	0.0045	2.2098
11	8.82	0.0	0.0454	0.0407	-0.0014	0.0404	-0.0034	0.2734	0.1853	0.0041	1.9011
12	9.84	0.0	0.0492	0.0471	-0.0004	0.0391	-0.0034	0.2771	0.1905	0.0046	1.9122
13	10.88	0.0	0.0574	0.0504	-0.0014	0.0401	-0.0027	0.2803	0.1944	0.0050	1.7699
14	11.97	0.0	0.0644	0.0542	-0.0004	0.0394	-0.0031	0.2812	0.1994	0.0016	1.6632
15	13.01	0.0	0.0704	0.0604	-0.0004	0.0357	-0.0026	0.2814	0.2071	0.0043	1.6094
16	14.12	0.0	0.0744	0.0610	-0.0007	0.0317	-0.0025	0.2804	0.2115	0.0090	1.5247
17	15.21	0.0	0.0754	0.0603	-0.0070	0.0163	-0.0023	0.2802	0.2205	0.0507	1.4702
18	16.24	0.0	0.0754	0.0704	0.0127	0.0170	-0.0012	0.2764	0.2272	0.0496	1.3971
19	17.34	0.0	0.0754	0.0710	0.0143	0.0143	-0.0013	0.2756	0.2344	0.0412	1.3351
20	18.43	0.0	0.0774	0.0714	0.0134	0.0113	-0.0012	0.2705	0.2390	0.0315	1.2761
21	19.55	0.0	0.0774	0.0723	0.0045	-0.0253	-0.0017	0.2625	0.2439	0.0140	1.2223
22	20.65	0.0	0.0774	0.0744	0.0310	-0.0461	-0.0021	0.2551	0.2489	0.0062	1.1502

2	20	0.55	0.3	0.6	0.3-0.4	15	0.0	0	0	0	0	FIXED
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POINT	ALPHA	BETA	CV	CLL	CV	CLL	CLL	CA	CAB	CAF	ACP
1	-1.61	0.0	-0.0111	-0.1111	-0.1111	-0.1111	-0.1111	0.5572	0.0877	0.6666	-1.2753
2	-0.60	0.0	-0.0000	0.1101	-0.1204	-0.0800	0.0164	0.5044	0.0859	0.6629	-1.3671
3	-0.30	0.0	0.0300	-0.0333	-0.1007	-0.0250	0.0166	0.5395	0.0780	0.6608	-0.8536
4	1.02	0.0	0.1212	-0.1042	-0.1100	-0.0114	0.0053	0.5308	0.0772	0.6536	-1.3992
5	2.00	0.0	0.1000	-0.0000	-0.1177	-0.0240	0.0073	0.5306	0.0768	0.6537	-1.3752
6	3.00	0.0	0.1001	-0.0000	-0.0454	-0.0035	0.0017	0.5330	0.0792	0.6502	-1.5368
7	0.30	0.0	0.0000	-0.1112	-0.0720	-0.0020	0.0095	0.5157	0.0700	0.6373	-1.0758
8	5.34	0.0	0.0000	-1.0000	-1.0000	-0.1115	0.0035	0.0017	0.0050	0.3907	-1.5512
9	6.01	0.0	0.7017	-1.2371	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	-1.6261
10	7.01	0.0	0.0000	-1.5100	-0.0700	-0.0040	0.0151	0.0097	0.0051	0.3947	-1.6736
11	8.07	0.0	1.0000	-1.0000	-0.0000	-0.1000	0.0001	0.0001	0.0000	0.3001	-1.7719
12	9.02	0.0	1.1703	-2.0000	-0.0000	-0.0000	0.0102	0.0001	0.1005	0.3956	-1.7210
13	10.01	0.0	1.0000	-0.0000	-0.0000	-0.1100	0.0000	0.0000	0.1000	0.3713	-1.7533
14	11.02	0.0	1.0000	-2.0000	-0.0000	-0.0043	0.0051	0.0004	0.1100	0.3774	-1.7921
15	12.00	0.0	1.0000	-3.0000	-0.0000	-0.0000	0.0071	0.0000	0.1100	0.3654	-1.7903
16	13.00	0.0	1.0000	-3.0000	-0.0000	-0.1000	0.0103	0.0007	0.1333	0.3304	-1.7904
17	14.00	0.0	2.0000	-1.7731	-0.0000	-0.0000	0.0000	0.0000	0.1371	0.3002	-1.8131
18	15.00	0.0	2.1000	-0.0000	-0.0000	-0.0000	-0.0010	0.0003	0.1500	0.3297	-1.8196
19	16.00	0.0	2.0000	-0.0000	-0.0000	-0.1000	0.0100	0.0000	0.1600	0.3001	-1.7776
20	17.07	0.0	2.0000	-0.0000	-0.0000	-0.1000	0.0193	0.0007	0.1600	0.2939	-1.7577
21	18.01	0.0	3.1000	-0.5550	-0.0000	-0.2017	0.0007	0.0000	0.1720	0.2905	-1.7702
22	19.07	0.0	3.1000	-0.7100	-0.0000	-0.2575	0.0016	0.0007	0.1753	0.2714	-1.7240



ARNDT ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST CASE NAME: HALL-6												
PWT CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2 24 0.54 0.3 0.0 0.30 0.15 0.0 0 0 0 0 0 FIXED												
POINT	ALPHA	BETA	CX	CY	CZ	XCX	XCY	XCZ	YCX	YCY	YCZ	ZCX
1	-1.01	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	-0.46	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.30	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	1.02	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	2.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	3.40	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	4.30	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	5.30	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	5.61	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	7.41	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	9.47	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	9.40	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	11.01	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	11.42	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	12.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	13.05	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	14.03	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	15.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	16.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	17.07	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	18.51	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	19.07	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TEST MAP: MACH 0.15-0.5  
 PWT 0.0-0.15  
 DEL1 0.0 DEL2 0.0 DEL3 0.0 DEL4 0.0  
 TRANSITION 0.0

POINT	ALPHA	HTA	CX3	CX4	CX5	XCX3	XCX4	CX6	CX7	CX8	XCX6	XCX7
1	-1.01	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
2	-0.00	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
3	0.32	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
4	1.42	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
5	2.00	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
6	3.30	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
7	4.30	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
8	5.30	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
9	6.30	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
10	7.41	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
11	8.67	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
12	9.42	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
13	10.01	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
14	11.00	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
15	12.44	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
16	13.45	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
17	14.03	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
18	14.00	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
19	15.00	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
20	17.47	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
21	18.51	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017
22	19.07	0.0	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017	-0.0017

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION AND TUNNEL FACILITY (PTF)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 3      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST CASE NAME: HALL-6      PHIL COLE      1      DEL1      DEL2      DEL3      DEL4      TRANSITION											
2      24 JUL 68      0.0 M30P15      0.0      0      0      0      0      0      0      0      FIXED											
POINT	ALPHA	BETA	CL	CLN	CY	CLN	CLL	CA	CAN	CAF	ACP
1	-1.61	0.0	-0.0500	-0.1112	-0.0754	-0.0320	-0.0214	0.0740	0.1167	0.1592	-1.6734
2	-0.61	0.0	0.0127	-0.0371	-0.0431	-0.0523	-0.0247	0.0470	0.1115	0.3509	-2.0307
3	0.61	0.0	0.0532	-0.1213	-0.0677	-0.0629	-0.0208	0.0639	0.1084	0.3556	-1.4583
4	1.61	0.0	0.0719	-0.0734	-0.0574	-0.0734	-0.0242	0.0471	0.0445	0.3815	-1.4629
5	2.61	0.0	0.3327	-0.0532	-0.0532	-0.0570	-0.0227	0.0684	0.0670	0.3806	-1.3402
6	3.61	0.0	0.6212	-0.0734	-0.0571	-0.0527	-0.0240	0.0649	0.0474	0.3770	-1.3889
7	4.61	0.0	0.7572	-0.0734	-0.0534	-0.0535	-0.0316	0.0640	0.0876	0.3664	-1.4905
8	5.61	0.0	0.6737	-0.0734	-0.0545	-0.0544	-0.0334	0.0627	0.0444	0.3575	-1.5733
9	6.61	0.0	0.6777	-0.0734	-0.0547	-0.0541	-0.0315	0.0570	0.0593	0.3632	-1.6618
10	7.61	0.0	0.6725	-0.0734	-0.0541	-0.0541	-0.0346	0.0434	0.1001	0.3437	-1.7004
11	8.61	0.0	1.1544	-0.0734	-0.0541	-0.0577	-0.0224	0.0204	0.1110	0.3099	-1.7314
12	9.61	0.0	1.2067	-0.0734	-0.0540	-0.0545	-0.0337	0.0191	0.1104	0.3044	-1.7791
13	10.61	0.0	1.2067	-0.0734	-0.0544	-0.0545	-0.0330	0.0127	0.1164	0.2958	-1.8263
14	11.61	0.0	1.2067	-0.0734	-0.0547	-0.0540	-0.0332	0.0044	0.1264	0.2749	-1.8276
15	12.61	0.0	1.1217	-0.0734	-0.0527	-0.0519	-0.0335	0.0055	0.1303	0.2752	-1.8651
16	13.61	0.0	1.0711	-0.0734	-0.0541	-0.0545	-0.0249	0.0442	0.1319	0.2673	-1.8474
17	14.61	0.0	2.0061	-0.0734	-0.0541	-0.0541	-0.0322	0.0007	0.1419	0.2568	-1.8593
18	15.61	0.0	2.0737	-0.0734	-0.0540	-0.0540	-0.0302	0.0036	0.1479	0.2557	-1.8795
19	16.61	0.0	2.0737	-0.0734	-0.0544	-0.0542	-0.0307	0.0022	0.1567	0.2455	-1.8912
20	17.61	0.0	2.0061	-0.0734	-0.0541	-0.0542	-0.0249	0.0049	0.1661	0.2409	-1.8911
21	18.61	0.0	2.0061	-0.0734	-0.0542	-0.0542	-0.0113	0.0034	0.1741	0.2304	-1.8688
22	19.61	0.0	3.1547	-0.0734	-0.0547	-0.0545	-0.0157	0.0099	0.1810	0.2289	-1.8704

TEST PART NAME RAISED												
2 2A 0.54 0.0												
PMT CASE 1 DEL1 DEL2 DEL3 DEL4 TRANSITION												
1.0 M30F15 0.0 0 0 0 0 FIXED												
POINT	ALPHA	BETA	CX1	CX2	CX3	YCPF1	YCPF2	CX4	CX5	CX6	YCPF3	YCPF4
1	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ADULT ENGINEERING DEVELOPMENT CENTER (AEC)      PROPULSION AND TUNNEL FACILITY (PTF)      AERODYNAMIC WIND TUNNEL (ATW)

TEST FARI PALM RALS-B												
E	24	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FIXED												
POINT	ALPHA	BETA	CMPS	CM3	CM3	KCPFS	KCPFS	CMFA	CM4	CM4	KCPFS	KCPFS
1	-1.01	0.00	-0.0119	-0.0119	-0.0119	-1.7377	-1.7377	-0.0119	-0.0119	-0.0119	-2.0464	-2.0464
2	-0.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	2.0514	-10.4362
3	0.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0571	0.3653
4	1.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
5	2.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
6	3.01	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
7	4.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
8	5.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
9	6.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
10	7.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
11	8.01	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
12	9.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
13	10.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
14	11.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
15	12.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
16	13.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
17	14.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
18	15.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
19	16.01	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
20	17.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
21	18.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397
22	19.00	0.00	-0.0119	-0.0119	-0.0119	1.0444	1.0444	0.0047	0.0047	0.0047	0.0586	0.6397

AEDC-TR-75-125  
 PAGE 1 OF 3  
 SHEET 1 OF 1

PROPELLANT AND TUNNEL FACILITY (PFT)  
 A-114 MISSILE TAIL EFFECTS DATA

AERODYNAMIC AND TUNNEL (AT)

TEST DATA - A-114											
2 27 0.54 0.7											
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0											
FIXED											
POINT	ALPHA	QFT	CN	CLN	CY	CLN	CLL	CA	CAR	CAF	XCP
1	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION AND TUNNEL FACILITY (PT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST NAME: TAIL FALL-0												
P 27 0.55 0.7												
CONF 0.0 M3.0F15 0.0												
DEL1 DEL2 DEL3 DEL4 TRANSITION												
0 0 0 0 FIXED												
POINT	ALPHA	ETA	CONF	CH1	CH2	ACPF1	YCPF1	CONF2	CH2	CONF2	ACPF2	YCPF2
1	-1.61	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	-0.1157	-0.0087	-0.1069	0.5518	0.9822
2	-0.75	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.0239	-0.0034	-0.0479	-0.1650	-0.1044
3	0.44	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.0440	-0.0015	-0.0857	-0.0299	-1.7583
4	1.41	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.0977	0.0073	-0.0555	0.0748	-0.5986
5	2.42	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.1379	0.0138	-0.0608	0.0999	-0.4612
6	3.44	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.1872	0.0230	-0.0453	0.1230	-0.2581
7	4.43	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.2264	0.0268	-0.0253	0.1172	-0.1113
8	5.45	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.2763	0.0311	-0.0045	0.1125	-0.0161
9	6.42	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.3268	0.0434	0.0218	0.1267	0.0606
10	7.43	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.3769	0.0518	0.0419	0.1278	0.1035
11	8.47	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.4265	0.0536	0.0801	0.1175	-0.1758
12	9.46	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.4763	0.0581	0.1001	0.1131	0.1949
13	10.46	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.5253	0.0608	0.1165	0.1087	0.2038
14	11.50	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.5750	0.0706	0.1279	0.1119	0.2028
15	12.47	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.6248	0.0765	0.1534	0.1109	0.2224
16	13.51	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.6741	0.0851	0.1722	0.1113	0.2254
17	14.47	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.7242	0.0880	0.1967	0.1056	0.2416
18	15.49	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.7746	0.0894	0.2106	0.1047	0.2467
19	16.46	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.8245	0.0821	0.2270	0.1007	0.2483
20	17.55	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.8738	0.0901	0.2424	0.0926	0.2491
21	18.51	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.9212	0.0961	0.2488	0.0921	0.2436
22	19.51	0.0	0.5555	0.5555	0.5555	0.5555	0.5555	0.9694	0.0879	0.2440	0.0837	0.2516

AROLD ENGINEERING DEVELOPMENT CENTER(AEUC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: RX10-6 PMI CODE: 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 27 0.5V 0.7 0.0 03+0+15 0.0 0 0 0 0 FIXED

POINT	ALPHA	BETA	CNF1	CNF2	CNF3	XCPF3	YCPF3	CNF4	CNF5	CNF6	XCPF4	YCPF4
1	1.01	0.0	-0.0000	-0.0000	-0.0000	0.3022	0.0100	-0.0150	-0.0113	-0.0235	0.7502	1.5618
2	0.00	0.0	-0.0000	-0.0000	-0.0000	0.3007	-0.0273	0.0024	-0.0006	0.0238	-2.9487	0.1501
3	0.00	0.0	-0.0000	-0.0000	-0.0000	0.3008	0.0465	0.0050	-0.0002	0.0003	0.0033	0.1517
4	1.01	0.0	-0.0010	-0.0000	0.0076	0.3007	-0.0750	0.0056	0.0043	0.0384	0.0502	0.4489
5	2.00	0.0	-0.0110	-0.0000	0.0050	0.3008	-0.0700	0.0131	0.0110	0.0491	0.0823	0.3604
6	3.00	0.0	-0.0000	-0.0000	0.0035	0.3012	-0.0540	0.0174	0.0174	0.0767	0.0996	0.4044
7	4.00	0.0	-0.0000	-0.0000	0.0035	0.3001	0.0033	0.0233	0.0270	0.0912	0.1182	0.3906
8	5.00	0.0	-0.0110	-0.0000	0.0010	0.3000	0.0117	0.0283	0.0334	0.1135	0.1178	0.4003
9	6.00	0.0	-0.0000	-0.0000	0.0000	0.3012	-0.0107	0.0336	0.0336	0.1036	0.1141	0.4274
10	7.00	0.0	-0.0000	-0.0000	0.0000	0.3004	0.0043	0.0390	0.0457	0.1022	0.1158	0.4613
11	8.00	0.0	-0.0000	-0.0000	0.0000	0.3001	0.0071	0.0435	0.0502	0.1038	0.1133	0.4378
12	9.00	0.0	-0.0000	-0.0000	0.0000	0.3015	-0.0001	0.0502	0.0549	0.2171	0.1091	0.4315
13	10.00	0.0	-0.0000	-0.0000	0.0000	0.3007	0.0000	0.0565	0.0605	0.2101	0.1088	0.4296
14	11.00	0.0	-0.0000	-0.0000	0.0000	0.3009	-0.0000	0.0610	0.0674	0.2021	0.1103	0.4579
15	12.00	0.0	-0.0000	-0.0000	0.0000	0.3007	0.0000	0.0662	0.0725	0.2762	0.1059	0.4036
16	13.00	0.0	-0.0000	-0.0000	0.0000	0.3000	0.0000	0.0747	0.0758	0.3099	0.1021	0.4173
17	14.00	0.0	-0.0000	-0.0000	0.0000	0.3000	-0.0000	0.0796	0.0809	0.3578	0.1000	0.4403
18	15.00	0.0	-0.0000	-0.0000	0.0000	0.3005	-0.0000	0.0844	0.0837	0.3510	0.0986	0.4133
19	16.00	0.0	-0.0000	-0.0000	0.0000	0.3000	0.0000	0.0880	0.0880	0.3401	0.0923	0.4100
20	17.00	0.0	-0.0000	-0.0000	0.0000	0.3000	-0.0000	0.0973	0.0978	0.3915	0.0902	0.4022
21	18.00	0.0	-0.0000	-0.0000	0.0000	0.3000	0.0000	0.1027	0.1007	0.4118	0.0880	0.4000
22	19.00	0.0	-0.0000	-0.0000	0.0000	0.3000	-0.0000	0.1080	0.1000	0.4177	0.0781	0.3867





TEST PART NAME	RAI	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION			
2	31	0.00	1.0	0.0	0.0	0.0	0.0	0.0	FIXED			
POINT	ALPHA	ETA	CN1	CN1	CN1	YCPF1	YCPF1	CN2	CN2	CN2	XCPF2	YCPF2
1	-1.02	0.0	-0.00130	-0.00115	-0.00031	-0.1005	0.2307	-0.0544	-0.0127	-0.0218	0.2336	0.3830
2	-0.85	0.0	-0.00144	-0.00104	-0.00045	-0.0418	0.0540	-0.0120	-0.0044	-0.0153	0.3626	1.2741
3	-0.63	0.0	-0.00153	-0.00104	-0.00046	-0.0040	0.0047	-0.0221	-0.0011	-0.0009	0.0507	-0.0393
4	-1.03	0.0	-0.00053	-0.0003	-0.00147	-0.0349	3.1274	0.0551	0.0057	0.0151	0.1217	0.2736
5	-2.33	0.0	-0.00053	-0.0012	-0.0022	-0.1357	0.2617	-0.1021	-0.0166	-0.0311	0.1567	0.3047
6	-3.07	0.0	-0.00155	-0.0014	-0.0004	0.0106	0.0074	0.1479	0.0043	0.0039	0.1640	0.2972
7	-4.00	0.0	-0.00172	-0.0004	-0.00230	-0.1340	1.3625	0.2005	0.0110	0.0651	0.1546	0.3248
8	-5.03	0.0	-0.00053	-0.0003	-0.0004	-0.0047	0.0365	0.2516	0.0071	0.0552	0.1477	0.3762
9	-6.03	0.0	-0.00053	-0.0003	-0.0004	-0.0352	0.0476	0.2119	0.0031	0.1167	0.1383	0.3805
10	-7.45	0.0	-0.00053	-0.0012	-0.0013	-0.1352	1.5425	0.3731	0.0522	0.1419	0.1399	0.3805
11	-8.00	0.0	-0.00053	-0.0010	-0.0010	-0.0016	-0.1009	0.4371	0.0062	0.1504	0.1376	0.3440
12	-9.44	0.0	-0.00053	-0.0003	-0.0004	-0.0049	0.0605	0.4952	0.0051	0.1407	0.1314	0.3650
13	-11.51	0.0	-0.00130	-0.0004	-0.0004	-0.0070	0.1520	0.3740	0.5574	0.0600	0.2123	0.1254
14	-11.50	0.0	-0.00130	-0.0011	-0.0010	-0.1004	1.2400	0.0100	0.0074	0.2345	0.1219	0.3070
15	-12.50	0.0	-0.00130	-0.0004	-0.0004	-0.1004	0.1535	0.0745	0.0033	0.2524	0.1228	0.3728
16	-13.50	0.0	-0.00172	-0.0004	-0.0003	-0.0103	0.1755	0.5419	0.7325	0.0044	0.2708	0.1171
17	-14.53	0.0	-0.00130	-0.0015	-0.0004	-0.1009	0.6306	0.7791	0.0067	0.2425	0.1113	0.3754
18	-15.55	0.0	-0.00130	-0.0004	-0.0004	-0.0079	0.0414	0.8582	0.0043	0.0094	0.3144	0.1049
19	-15.53	0.0	-0.00130	-0.0004	-0.0004	-0.1004	0.0718	0.0074	0.0075	0.3207	0.1047	0.3574
20	-17.55	0.0	-0.00130	-0.0004	-0.0004	-0.0142	0.0153	-1.1339	0.0533	0.0044	0.3372	0.1038
21	-18.55	0.0	-0.00130	-0.0012	-0.0004	-0.1004	0.1354	1.2220	0.0059	0.0059	0.3541	0.0963
22	-19.60	0.0	-0.0007	-0.00032	-0.00102	0.3240	1.0549	1.0348	0.0071	0.3600	0.0936	0.3462

ARLORD ENGINEERING DEVELOPMENT CENTER (AELC)      PROPULSION WIND TUNNEL FACILITY (PWTF)      AERODYNAMIC WIND TUNNEL (ATW)

PAGE 3 OF 3      MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART	PALM HEL-5	Pnl	CUSE	1	HEL1	HEL2	DEL3	DEL4	TRANSITION
2	31 u5y 1.1	u.0	03=6F15	0.0	0	0	0	0	FIXED

POINT	ALPHA	META	CNF3	CM3	CB3	KCPF3	YCPF3	CNF4	CM4	CB4	KCPF4	YCPF4
1	-1.66	0.0	-0.0023	-0.0021	-0.0054	-0.0044	-0.00245	-0.0059	-0.0075	-0.0264	0.1640	0.5747
2	-0.65	0.0	-0.0021	-0.0004	-0.0028	-0.0174	-0.00659	-0.0226	-0.0015	0.0004	0.0670	-0.0168
3	0.63	0.0	-0.0001	-0.0023	-0.0023	0.0372	-0.0384	-0.0337	0.0083	0.0036	0.2666	-0.1061
4	1.63	0.0	-0.0233	-0.0115	0.0061	0.4495	-0.2611	0.0745	0.0162	0.0127	0.2442	0.1705
5	2.35	0.0	-0.0176	-0.0030	0.0030	0.0000	-0.2196	0.1130	0.0241	0.0336	0.2132	0.2953
6	3.62	0.0	-0.0157	-0.0071	0.0032	0.4535	-0.2033	0.1366	0.0245	0.0444	0.1819	0.4784
7	4.66	0.0	-0.0161	-0.0054	0.0020	0.4164	-0.1631	0.2045	0.0375	0.0767	0.1792	0.3650
8	5.63	0.0	-0.0061	-0.0001	-0.0012	0.1456	0.2937	0.2610	0.0424	0.1040	0.1640	0.3985
9	6.65	0.0	-0.0065	-0.0002	-0.0003	0.2696	0.0007	0.3286	0.0551	0.1418	0.1676	0.4316
10	7.65	0.0	-0.0212	-0.0107	0.0071	0.4430	-0.2140	0.3746	0.0566	0.1557	0.1512	0.4156
11	8.66	0.0	-0.0326	-0.0162	0.0066	0.4937	-0.2094	0.4415	0.0662	0.2093	0.1500	0.4746
12	9.66	0.0	-0.0207	-0.0065	0.0073	0.3166	-0.1139	0.4946	0.0643	0.2368	0.1381	0.4828
13	10.51	0.0	-0.0206	-0.0016	0.0035	0.0001	-0.1563	0.5617	0.0734	0.2572	0.1356	0.4728
14	11.50	0.0	-0.0177	-0.0051	0.0012	0.2734	-0.0663	0.6047	0.0767	0.2568	0.1268	0.4247
15	12.56	0.0	-0.0222	-0.0055	0.0021	0.2734	-0.1059	0.6095	0.0812	0.3190	0.1231	0.4837
16	13.60	0.0	-0.0065	-0.0015	-0.0050	-0.1777	0.5874	0.7138	0.0997	0.2994	0.1256	0.4181
17	14.53	0.0	-0.0337	-0.0130	0.0053	0.3700	-0.1502	0.7663	0.0907	0.3264	0.1187	0.4298
18	15.55	0.0	-0.0341	0.0005	-0.0049	-0.0626	0.5424	0.8240	0.0922	0.3457	0.1113	0.4055
19	16.53	0.0	-0.0221	-0.0004	-0.0063	0.3101	0.6603	0.8664	0.0912	0.3645	0.1051	0.4244
20	17.55	0.0	0.0023	0.0077	-0.0043	0.1944	-0.0676	0.9436	0.0977	0.3648	0.1033	0.3910
21	18.55	0.0	-0.0223	-0.0002	0.0000	0.1044	-0.0005	0.9905	0.0962	0.3857	0.0971	0.3894
22	19.60	0.0	-0.0300	-0.0105	0.0055	0.3991	-0.1508	1.0422	0.0981	0.4009	0.0942	0.3847

TEST PWTF Mach 0.41-0.6 Pn1 CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 32 0.5V 1.3 0.0 33.0P15 0.0 0 0 0 0 0 FIXED

POINT	ALPHA	BETA	CN	CLN	CV	CLV	CLL	CA	CAB	CAF	ACP
1	-1.60	0.0	-0.0415	-0.0115	-0.0335	-0.0175	-0.0005	0.2955	0.1097	0.1457	-1.2538
2	-0.63	0.0	-0.1115	-0.0225	-0.0435	-0.0275	-0.0001	0.3004	0.0800	0.2704	-1.9587
3	0.39	0.0	-0.0905	-0.0170	-0.0327	-0.0259	0.0003	0.3025	0.0943	0.2082	-1.2936
4	1.39	0.0	0.1991	-0.0210	-0.0285	0.0104	0.0034	0.2999	0.0962	0.2037	-1.2746
5	2.43	0.0	0.2973	-0.0395	-0.0311	0.0231	0.0037	0.2963	0.0968	0.1975	-1.3598
6	3.44	0.0	0.4021	-0.0325	-0.0325	0.0255	0.0029	0.2955	0.1019	0.1965	-1.4987
7	4.42	0.0	0.5575	-0.0065	-0.0223	0.0145	0.0042	0.2965	0.0973	0.1964	-1.5860
8	5.44	0.0	0.7705	-1.0315	-0.0205	0.0195	0.0047	0.2893	0.0997	0.1895	-1.6571
9	6.50	0.0	0.8175	-1.0325	-0.0253	0.0205	0.0037	0.2981	0.1078	0.1903	-1.7432
10	7.44	0.0	0.9501	-1.7305	-0.0271	0.0195	0.0054	0.3005	0.1134	0.1670	-1.7975
11	8.46	0.0	1.1073	-2.1001	-0.0225	0.0285	0.0054	0.2995	0.1115	0.1880	-1.8627
12	9.54	0.0	1.2671	-2.3061	-0.0173	-0.0043	0.0099	0.2995	0.1206	0.1767	-1.8672
13	10.67	0.0	1.4002	-2.7341	-0.0191	-0.0032	0.0066	0.3025	0.1277	0.1768	-1.8900
14	11.69	0.0	1.4001	-2.7687	-0.0199	-0.0041	0.0054	0.3014	0.1302	0.1672	-1.9056
15	12.52	0.0	1.7903	-3.1145	-0.0157	-0.0115	0.0057	0.3007	0.1382	0.1625	-1.9073
16	13.50	0.0	1.4544	-3.7613	-0.0127	-0.0172	0.0037	0.2977	0.1453	0.1524	-1.9206
17	14.58	0.0	2.1031	-4.1995	-0.0162	-0.0354	0.0045	0.2927	0.1464	0.1462	-1.9130
18	15.54	0.0	2.2243	-4.4035	-0.0067	-0.0474	0.0056	0.2882	0.1513	0.1369	-1.8945
19	16.61	0.0	2.5405	-4.7705	-0.0000	-0.0342	0.0126	0.2822	0.1591	0.1330	-1.8858
20	17.60	0.0	2.7233	-5.1140	-0.0009	-0.0344	0.0090	0.2800	0.1633	0.1247	-1.8793
21	18.58	0.0	2.9125	-5.4422	0.0073	-0.0555	0.0109	0.2843	0.1762	0.1060	-1.8709
22	19.60	0.0	3.0995	-5.7480	0.0134	-0.0636	0.0127	0.2850	0.1877	0.0901	-1.8545

AEDC ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME		PMI		CONF		I		DEL1	DEL2	DEL3	DEL4	TRANSITION
2		37 J-59 1.3		0.0 03-04-15		0.0		0	0	0	0	FIXED
POINT	ALPHA	BETA	CX1	CX1	CX1	ACPF1	YCPF1	CNF2	CX2	CX2	XCPF2	YCPF2
1	-1.45	0.0	-0.0125	-0.0003	-0.0147	0.0227	1.1510	-0.0046	-0.0094	-0.0265	0.2416	0.8485
2	-0.43	0.0	-0.0101	-0.0010	-0.0111	0.0615	1.7314	-0.0143	-0.0076	-0.0142	0.5274	0.9930
3	0.39	0.0	-0.0072	-0.0011	-0.0083	0.1521	1.7804	0.0234	0.0000	-0.0029	0.0274	0.1242
4	1.39	0.0	-0.0111	-0.0004	-0.0117	0.0345	1.1558	0.0541	0.0053	0.0146	0.0985	0.2697
5	2.43	0.0	-0.0129	-0.0003	-0.0083	0.0225	0.6408	0.1065	0.0165	0.0274	0.1540	0.2617
6	3.44	0.0	-0.0139	-0.0010	-0.0014	0.0416	-0.1004	0.1558	0.0241	0.0458	0.1545	0.2939
7	4.47	0.0	-0.0147	-0.0014	-0.0013	0.0566	0.0675	0.1966	0.0240	0.0730	0.1423	0.3712
8	5.44	0.0	-0.0149	-0.0004	-0.0014	0.0344	1.8135	0.2540	0.0348	0.0957	0.1368	0.3766
9	6.50	0.0	-0.0162	-0.0016	-0.0024	0.0420	0.8627	0.3177	0.0420	0.1245	0.1322	0.3818
10	7.44	0.0	-0.0129	-0.0003	0.0005	0.0225	-0.0347	0.3775	0.0506	0.1443	0.1339	0.3823
11	8.46	0.0	-0.0115	0.0024	-0.0060	0.0715	4.6385	0.4354	0.0574	0.1565	0.1319	0.3594
12	9.54	0.0	-0.0090	-0.0001	-0.0004	0.0006	1.0916	0.4447	0.0426	0.1405	0.1266	0.3852
13	10.67	0.0	-0.0090	-0.0001	-0.0012	0.0056	1.5615	0.5591	0.0473	0.2080	0.1203	0.3720
14	11.49	0.0	-0.0117	-0.0021	-0.0174	0.1143	0.9882	0.6157	0.0723	0.2317	0.1174	0.3763
15	12.52	0.0	-0.0075	-0.0005	-0.0168	0.0612	1.8413	0.6777	0.0787	0.2528	0.1162	0.3730
16	13.50	0.0	-0.0174	-0.0021	-0.0064	0.1140	0.4913	0.7324	0.0812	0.2753	0.1108	0.3758
17	14.54	0.0	-0.0050	0.0012	-0.0003	-0.0344	0.0598	0.7826	0.0825	0.3009	0.1054	0.3845
18	15.54	0.0	-0.0114	-0.0012	-0.0042	0.1042	0.4397	0.4393	0.0490	0.3152	0.1060	0.3754
19	16.61	0.0	-0.0090	-0.0010	-0.0040	1.4777	-5.9136	0.9086	0.0364	0.3250	0.1065	0.3573
20	17.60	0.0	-0.0040	-0.0003	-0.0004	0.0424	0.7332	0.9428	0.0345	0.3450	0.1023	0.3583
21	18.54	0.0	-0.0121	-0.0017	-0.0154	0.0615	1.2871	0.9987	0.0457	0.3605	0.0959	0.3610
22	19.50	0.0	0.0126	0.0044	-0.0071	0.3443	-0.5549	1.0339	0.0957	0.3641	0.0925	0.3522

[illegible]



TEST MARTIN MISSILE - 0.001 - CUMF 1 - DEL1 DEL2 DEL3 DEL4 TRANSITION												
POINT	ALPHA	WTA	CNF1	CM1	CM2	YCPF1	YCPF2	CNF2	CM2	CM2	YCPF2	YCPF2
1	-1.63	0.0	-0.0117	-0.0197	-0.0220	0.0015	-0.1644	-0.0523	-0.0099	-0.0298	0.1887	0.5788
2	-0.62	0.0	-0.0000	0.0000	-0.0100	-0.0047	0.4746	-0.0125	-0.0035	-0.0157	0.2821	1.2546
3	0.39	0.0	-0.0117	-0.0000	-0.0000	0.0016	0.2455	0.0236	0.0018	0.0008	0.0770	0.0355
4	1.48	0.0	-0.0047	-0.0000	0.0000	0.0224	-0.0383	0.0013	0.0078	0.0174	0.1273	0.2844
5	2.48	0.0	-0.0000	0.0000	-0.0000	-0.0047	0.0047	-0.1018	0.0108	0.0331	0.1454	0.3256
6	3.49	0.0	-0.0131	-0.0010	-0.0017	0.0745	0.1305	0.1424	0.0228	0.0446	0.1492	0.3572
7	4.50	0.0	-0.0000	-0.0000	0.0011	0.0000	0.1125	0.2063	0.0248	0.0769	0.1446	0.3728
8	5.51	0.0	-0.0000	-0.0000	-0.0000	0.0011	0.5243	0.2060	0.0371	0.1034	0.1407	0.3918
9	6.52	0.0	-0.0000	-0.0000	0.0013	0.0376	-0.1671	0.3244	0.0436	0.1314	0.1346	0.4852
10	7.53	0.0	-0.0000	-0.0000	0.0000	0.0146	-0.0777	0.3871	0.0509	0.1570	0.1314	0.4856
11	8.54	0.0	-0.0000	-0.0000	0.0000	0.0000	0.4462	0.4502	0.0564	0.1830	0.1264	0.4863
12	9.55	0.0	-0.0112	-0.0000	0.0017	0.1157	-0.1299	0.5104	0.0624	0.2093	0.1222	0.4101
13	10.56	0.0	-0.0000	-0.0000	0.0013	0.7742	16.4600	0.5767	0.0683	0.2363	0.1142	0.4051
14	11.57	0.0	-0.0114	-0.0013	-0.0000	0.1149	0.0845	0.6457	0.0738	0.2493	0.1143	0.4016
15	12.58	0.0	-0.0000	-0.0000	0.0030	0.1436	0.2120	0.7150	0.0810	0.2813	0.1133	0.3034
16	13.59	0.0	-0.0113	-0.0011	-0.0000	0.0440	0.5879	0.7836	0.0844	0.3050	0.1077	0.3093
17	14.60	0.0	-0.0000	-0.0012	-0.0000	0.1151	0.4699	0.8442	0.0893	0.3242	0.1058	0.3868
18	15.61	0.0	-0.0105	-0.0000	-0.0000	0.0013	0.8177	0.9074	0.0944	0.3447	0.1040	0.3799
19	16.62	0.0	-0.0000	-0.0000	-0.0000	0.0022	0.8562	0.9556	0.0963	0.3636	0.1008	0.3804
20	17.63	0.0	-0.0105	-0.0014	-0.0022	0.1435	0.1647	1.0155	0.1014	0.3606	0.1001	0.3747
21	18.64	0.0	-0.0000	-0.0017	-0.0022	0.7946	37.5947	1.0654	0.1009	0.3879	0.0965	0.3718
22	20.01	0.0	-0.0000	0.0001	-0.0013	-0.0116	0.2500	1.0956	0.1013	0.3913	0.0925	0.3571









ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME 9X10-5 PHI CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
2 36 0.54 0.3 107.0 H3=0F15 0.0 0 0 0 0 FIXED

POINT	ALPHA	BETA	CMF3	CM3	CM3	XCPF3	YCPF3	CMF4	CM4	CM4	XCPF4	YCPF4
1	-1.54	0.0	-0.0152	-0.0154	0.0054	1.2452	-0.3801	-0.0724	0.0253	0.0264	0.3470	0.2809
2	-0.57	0.0	-0.0179	-0.0226	0.0165	1.2613	-0.4923	0.0357	0.0171	0.0056	0.4771	0.1573
3	0.43	0.0	-0.0755	-0.0340	-0.0191	0.5133	-0.2517	0.0067	0.0137	-0.0217	2.0551	-3.2677
4	1.44	0.0	-0.0334	-0.0292	0.0224	0.8750	-0.6709	-0.0426	0.0028	-0.0319	-0.0662	0.7494
5	2.44	0.0	-0.0145	-0.0168	0.0172	0.8617	-0.8746	-0.0796	-0.0053	-0.0564	0.0672	0.7087
6	3.44	0.0	0.0541	0.0321	-0.0127	0.5427	-0.2149	-0.1756	-0.0094	-0.0871	0.0748	0.6936
7	4.42	0.0	-0.0516	-0.0426	0.0243	0.8264	-0.5683	-0.1667	-0.0155	-0.1008	0.0927	0.6008
8	5.44	0.0	-0.0540	-0.0617	0.0454	0.6562	-0.4634	-0.2253	-0.0223	-0.1166	0.0988	0.5175
9	6.41	0.0	-0.0644	-0.0612	0.0124	1.3451	-1.5581	-0.2590	-0.0236	-0.1528	0.0910	0.5868
10	7.43	0.0	0.0240	0.0068	-0.0016	0.2796	-0.0535	-0.3244	-0.0350	-0.1843	0.1080	0.5679
11	8.44	0.0	0.0643	0.0434	-0.0223	0.5215	-0.2645	-0.3793	-0.0344	-0.1442	0.0921	0.3802
12	9.45	0.0	-0.0377	-0.0271	0.0240	0.7141	-0.6372	-0.4399	-0.0484	-0.2261	0.1101	0.5140
13	10.43	0.0	0.0573	0.0347	-0.0121	0.6044	-0.2106	-0.4930	-0.0552	-0.2328	0.1108	0.4675
14	11.47	0.0	-0.0456	-0.0346	0.0145	0.7471	-0.3798	-0.5427	-0.0591	-0.2533	0.1089	0.4667
15	12.46	0.0	0.0516	0.0054	-0.0006	3.0444	-0.3797	-0.5644	-0.0556	-0.2818	0.0979	0.4958
16	13.45	0.0	-0.0362	-0.0235	0.0137	0.6523	-0.3797	-0.4252	-0.0622	-0.2593	0.0995	0.4148
17	14.49	0.0	-0.0611	-0.0447	0.0232	0.7343	-0.3799	-0.6164	-0.0330	-0.2244	0.0535	0.3641
18	15.44	0.0	0.0441	0.0254	-0.0175	0.5417	-0.3749	-0.7266	-0.0463	-0.3174	0.0912	0.4368
19	16.47	0.0	-0.0253	-0.0114	0.0195	0.4724	-0.3500	-0.7491	-0.0709	-0.3416	0.0898	0.4329
20	17.51	0.0	0.0505	0.0234	-0.0142	0.4724	-0.3749	-0.7495	-0.0469	-0.3772	0.0837	0.4718
21	18.44	0.0	0.0456	0.0113	-0.0021	0.2312	-0.3797	-0.8555	-0.0711	-0.3793	0.0831	0.4434
22	19.52	0.0	0.0141	0.0002	-0.0054	0.0135	-0.3796	-0.9420	-0.0811	-0.3370	0.0861	0.3577

AEROLOG ENGINEERING DEVELOPMENT CENTER (AEC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	MARTIN	RAUM	RAUM	RAUM	RAUM	RAUM	RAUM	RAUM	RAUM	RAUM	RAUM	RAUM
2	37	0.54	0.0	100.0	0.30	0.15	0.0	0	0	0	0	FIXED
POINT	ALPHA	META	CN	CLM	CY	CLN	CLL	CA	CAR	CAF	ACP	
1	1.50	0.0	-0.154	-1.101	-0.0707	0.0507	1.0072	0.0109	0.0755	0.3354	-1.1001	
2	0.50	0.0	-0.0707	-1.101	-1.0000	1.0000	0.0037	0.0040	0.0032	0.3208	-1.1496	
3	1.00	0.0	0.0200	-1.1000	-0.0300	0.0000	0.0000	0.0100	0.0000	0.3200	-2.3510	
4	1.00	0.0	0.1000	-1.2000	-0.0700	0.0000	0.0100	0.0000	0.0000	0.3000	-1.7237	
5	2.00	0.0	0.2000	-1.3000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.3000	-1.5100	
6	3.00	0.0	0.3000	-1.5000	-0.0700	0.0000	-0.0000	0.0000	0.0000	0.2900	-1.5100	
7	4.00	0.0	0.4000	-1.7000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.2900	-1.5000	
8	5.00	0.0	0.5000	-1.9000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.2900	-1.6512	
9	6.00	0.0	0.6000	-2.1000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.2800	-1.6412	
10	7.00	0.0	0.7000	-2.3000	-0.0700	0.0000	-0.0000	0.0000	0.0000	0.2800	-1.7372	
11	8.00	0.0	0.8000	-2.5000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.2700	-1.7870	
12	9.00	0.0	0.9000	-2.7000	-0.0700	0.0000	-0.0000	0.0000	0.0000	0.2700	-1.6280	
13	10.00	0.0	1.0000	-2.9000	-0.0700	0.0000	-0.0000	0.0000	0.0000	0.2600	-1.8360	
14	11.00	0.0	1.1000	-3.1000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.2500	-1.8660	
15	12.00	0.0	1.2000	-3.3000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.2000	-1.8860	
16	13.00	0.0	1.3000	-3.5000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.2000	-1.8730	
17	14.00	0.0	1.4000	-3.7000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.2000	-1.8850	
18	15.00	0.0	1.5000	-3.9000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.1900	-1.8777	
19	16.00	0.0	1.6000	-4.1000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.1800	-1.8720	
20	17.00	0.0	1.7000	-4.3000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.1800	-1.8573	
21	18.00	0.0	1.8000	-4.5000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.1600	-1.8381	
22	19.00	0.0	1.9000	-4.7000	-0.0700	0.0000	0.0000	0.0000	0.0000	0.1500	-1.7941	

TEST PART MACH AXIAL PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2 37 0.54 0.4 100.0 0.300F15 0.0 0 0 0 0 0 F1AEU												
POINT	ALPHA	BETA	CNF1	CN1	CH1	YCPF1	YCPF1	CNF2	CH2	CR2	XCPF2	YCPF2
1	-1.54	0.0	-0.0012	-0.0105	0.0000	0.2365	-1.1341	0.0400	0.0000	0.0160	0.1292	0.3412
2	-0.50	0.0	-0.0000	-0.0020	0.0052	0.2613	-0.2947	0.0420	0.0000	-0.0003	0.2319	-0.1943
3	0.42	0.0	-0.0007	-0.0021	0.0033	0.2371	-0.3757	0.0036	0.0000	-0.0207	0.7915	-0.3017
4	1.42	0.0	-0.0023	-0.0120	0.0027	0.2365	-1.0074	-0.0592	-0.0102	-0.0702	0.1717	0.4757
5	2.40	0.0	-0.0031	-0.0060	0.0052	0.1319	0.0621	-0.0903	-0.0102	-0.0016	0.1583	0.6840
6	3.40	0.0	-0.0007	-0.0003	0.0003	0.1971	-1.0057	-0.1447	-0.0250	-0.0610	0.1729	0.5655
7	4.43	0.0	-0.0000	-0.0000	0.0000	0.2365	-0.5441	-0.1702	-0.0236	-0.0483	0.1322	0.4055
8	5.47	0.0	-0.0010	-0.0020	0.0005	0.2371	-0.3782	-0.2561	-0.0340	-0.0982	0.1540	0.3033
9	6.46	0.0	-0.0032	-0.0100	0.0000	0.2365	-0.3781	-0.3231	-0.0501	-0.1329	0.1551	0.4113
10	7.46	0.0	-0.0140	-0.0070	0.0000	0.2346	-0.3149	-0.3573	-0.0495	-0.1527	0.1304	0.4275
11	8.47	0.0	-0.0557	-0.0111	0.0000	0.1991	0.0450	-0.0186	-0.0551	-0.1759	0.1317	0.4204
12	9.44	0.0	0.0231	0.0070	-0.0014	0.3765	-1.0129	-0.4901	-0.0676	-0.1909	0.1379	0.3895
13	10.45	0.0	0.0310	0.0070	0.0020	0.3022	-0.8647	-0.5620	-0.0732	-0.2166	0.1409	0.3854
14	11.47	0.0	0.0143	0.0050	-0.0000	0.3023	-0.3783	-0.5917	-0.0710	-0.2439	0.1149	0.4121
15	12.49	0.0	-0.0333	-0.0070	0.0012	0.1420	-0.0310	-0.0367	-0.0770	-0.2608	0.1222	0.4222
16	13.50	0.0	0.0000	0.0117	-0.0050	0.2400	-1.3574	-0.0857	-0.0790	-0.2925	0.1164	0.4265
17	14.49	0.0	-0.0071	-0.0040	0.0112	0.1421	-0.2371	-0.7269	-0.0012	-0.2943	0.1118	0.4049
18	15.49	0.0	0.0231	0.0070	0.0000	0.3260	0.1955	-0.7794	-0.0052	-0.3251	0.1092	0.4170
19	16.50	0.0	-0.0500	-0.0112	0.0012	0.1431	-0.0210	-0.0325	-0.0001	-0.3310	0.1034	0.3975
20	17.49	0.0	-0.0500	-0.0120	0.0000	0.2346	-0.0020	-0.0042	-0.0037	-0.3477	0.1048	0.3080
21	18.53	0.0	0.0175	0.0001	-0.0000	0.2363	-2.2627	-0.0373	-0.0073	-0.3502	0.1038	0.3033
22	19.52	0.0	-0.0032	0.0013	0.0070	-0.0201	-2.4637	-0.0097	-0.0042	-0.3568	0.0971	0.3679

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC SIMU TUNNEL (AT)

PAGE 3 OF 4

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PARTIAL RX1000 - PMI CORR - L DEL1 DEL2 DEL3 DEL4 TRANSITION															
2		37 0.54 0.0		100.0 03.0F15 0.0		0		0		0		0		FIXED	
POINT	ALPHA	MFA	CNFA	CM3	CM3	ACPF3	YCPF3	CNFA	CM4	CM4	YCPF4	YCPF4			
1	-1.56	0.0	-0.0075	-0.0102	-0.0055	-1.3500	-1.2633	-0.0750	-0.0224	-0.0175	-0.3046	-0.2334			
2	-0.40	0.0	-0.0104	-0.0101	-0.0011	-0.0052	-0.0754	-0.0244	-0.0117	-0.0039	-0.4772	-0.1572			
3	0.02	0.0	-0.0050	-0.0073	-0.0009	-0.3130	-0.3749	-0.0008	-0.0090	-0.0215	-2.0574	-4.7143			
4	1.42	0.0	-0.0101	-0.0165	-0.0127	-1.0147	-0.7429	-0.0351	-0.0047	-0.0391	-0.1346	-1.1122			
5	2.44	0.0	-0.0057	-0.0104	-0.0065	-0.7511	-0.6255	-0.0026	-0.0078	-0.0540	-0.0946	-0.4539			
6	3.44	0.0	-0.0050	-0.0040	-0.0064	-0.5433	-0.3045	-0.1221	-0.0124	-0.0847	-0.1015	-0.6938			
7	4.43	0.0	-0.0054	-0.0043	-0.0034	-0.4404	-0.3802	-0.1759	-0.0222	-0.0974	-0.1260	-0.5538			
8	5.47	0.0	-0.0054	-0.0050	-0.0005	-0.6444	-0.5626	-0.2274	-0.0273	-0.1175	-0.1199	-0.5167			
9	6.46	0.0	-0.0063	-0.0022	-0.0049	-0.7400	-0.7844	-0.2764	-0.0334	-0.1456	-0.1224	-0.5268			
10	7.46	0.0	-0.0174	-0.0042	-0.0064	-0.6724	-0.3810	-0.3332	-0.0422	-0.1702	-0.1266	-0.5108			
11	8.47	0.0	-0.0052	-0.0020	-0.0010	-0.5190	-0.3794	-0.3894	-0.0463	-0.1545	-0.1137	-0.3964			
12	9.44	0.0	-0.0067	-0.0037	-0.0025	-0.5440	-0.3004	-0.4603	-0.0574	-0.2199	-0.1256	-0.4777			
13	10.45	0.0	-0.0024	-0.0007	-0.0011	-0.2305	-0.3814	-0.5167	-0.0615	-0.2518	-0.1194	-0.4893			
14	11.47	0.0	-0.0010	-0.0024	-0.0010	-0.7410	-0.3744	-0.5606	-0.0632	-0.2738	-0.1128	-0.4885			
15	12.49	0.0	-0.0042	-0.0042	-0.0165	-0.6594	-0.3800	-0.6167	-0.0671	-0.2934	-0.1088	-0.4759			
16	13.50	0.0	-0.0102	-0.0100	-0.0064	-0.6430	-0.3500	-0.6544	-0.0453	-0.2966	-0.0998	-0.4529			
17	14.49	0.0	-0.0112	-0.0001	-0.0006	-0.3504	-0.3747	-0.6744	-0.0525	-0.2500	-0.0778	-0.3839			
18	15.49	0.0	-0.0102	-0.0117	-0.0054	-0.6147	-0.3400	-0.7504	-0.0738	-0.3405	-0.0983	-0.4536			
19	16.51	0.0	-0.0111	-0.0144	-0.0110	-0.6344	-0.3744	-0.6295	-0.0802	-0.3603	-0.0967	-0.4343			
20	17.49	0.0	-0.0004	-0.0001	-0.0034	-0.6010	-0.3404	-0.5604	-0.0767	-0.3472	-0.0891	-0.4498			
21	18.53	0.0	-0.0011	-0.0044	-0.0004	-0.5400	-0.3432	-0.9234	-0.0742	-0.3946	-0.0866	-0.4367			
22	19.54	0.0	-0.0103	-0.0004	-0.0003	-0.4596	-0.3450	-0.9652	-0.0837	-0.3768	-0.0867	-0.3904			

TEST PART NAME PAID-4 PMI CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
2 3A 0.5V 0.7 100.0 03.0F15 0.0 0 0 0 0 FIXED

POINT	ALPHA	ETA	CN	CLM	CV	CLM	CLL	CA	CAP	CAF	ACP
1	-1.50	0.00	-0.1645	-0.2164	-0.0035	-0.1249	-0.0071	0.3015	0.1157	0.2258	-1.5761
2	-0.50	0.00	-0.0777	-0.0844	-0.0343	-0.0233	-0.0040	0.3391	0.1130	0.2245	-1.4623
3	0.51	0.00	0.0771	-0.1087	-0.0002	0.0243	-0.0030	0.3023	0.1001	0.2362	-1.3925
4	1.50	0.00	0.1540	-0.2220	-0.0070	0.0310	-0.0032	0.3400	0.1059	0.2401	-1.3950
5	2.50	0.00	0.2570	-0.2000	-0.0303	0.0197	-0.0020	0.3000	0.1010	0.2420	-1.4152
6	3.50	0.00	0.3570	-0.5200	-0.0501	0.0000	-0.0001	0.3352	0.0962	0.2391	-1.4733
7	4.50	0.00	0.5040	-0.0142	-0.0057	0.0070	0.0000	0.3330	0.0960	0.2370	-1.6102
8	5.50	0.00	0.6740	-1.0000	-0.0035	0.0213	-0.0000	0.3377	0.1005	0.2372	-1.6577
9	6.50	0.00	0.7900	-1.3000	-0.0300	0.0200	-0.0012	0.3370	0.1030	0.2360	-1.7520
10	7.50	0.00	0.9000	-1.1200	-0.0370	0.0310	-0.0025	0.3301	0.1090	0.2291	-1.7825
11	8.50	0.00	1.1000	-2.0220	-0.0050	0.0370	-0.0020	0.3350	0.1150	0.2200	-1.8235
12	9.50	0.00	1.2500	-2.1030	-0.0020	0.0000	0.0000	0.3300	0.1210	0.2140	-1.8541
13	10.50	0.00	1.4200	-2.0000	-0.0000	0.0000	-0.0000	0.3300	0.1270	0.2110	-1.8593
14	11.50	0.00	1.5700	-2.0000	-0.0010	0.0000	-0.0000	0.3300	0.1330	0.2050	-1.8830
15	12.50	0.00	1.7500	-3.1200	-0.0030	0.0200	-0.0000	0.3301	0.1370	0.1960	-1.8970
16	13.50	0.00	1.8000	-3.0010	-0.0010	0.0210	-0.0000	0.3100	0.1430	0.1730	-1.9120
17	14.50	0.00	2.1300	-3.0000	-0.0020	0.0270	-0.0000	0.3050	0.1400	0.1600	-1.9300
18	15.50	0.00	2.1500	-4.1000	-0.0010	0.0000	-0.0000	0.3030	0.1520	0.1500	-1.9420
19	16.50	0.00	2.3000	-4.0000	-0.0020	0.0000	-0.0000	0.3100	0.1620	0.1400	-1.9500
20	17.50	0.00	2.4000	-5.0000	-0.0010	0.0110	-0.0010	0.3130	0.1740	0.1300	-1.9480
21	18.50	0.00	2.7700	-5.0000	-0.0030	0.0000	-0.0000	0.3170	0.1820	0.1350	-1.9300
22	19.50	0.00	3.0700	-5.0000	-0.0100	-0.0000	-0.0000	0.3150	0.1910	0.1230	-1.9170



ARPAUD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: X10-6												
MFI CODE: 1												
DEL1 DEL2 DEL3 DEL4 TRANSITION												
2 3H 0.59 0.7 100.0 03.0 15 0.0 0 0 0 0 0 FIXED												
POINT	ALPHA	BETA	CNF1	CNF1	CNF1	ACPF1	YCPF1	CNF2	CNF2	CNF2	XCPF2	YCPF2
1	-1.50	0.0	-0.0567	-0.0130	-0.0455	0.2300	-0.6317	0.0617	0.0060	0.0034	0.1106	0.0544
2	-0.50	0.0	-0.0511	-0.0104	-0.0193	0.2111	-0.3761	0.0292	0.0055	-0.0003	0.1874	-0.0086
3	0.01	0.0	-0.0164	-0.0020	0.0015	0.0616	-0.1007	-0.0210	-0.0041	-0.0311	0.1964	1.4798
4	1.00	0.0	-0.0082	-0.0082	0.0054	0.2002	-0.0916	-0.0604	-0.0116	-0.0203	0.1886	0.4683
5	2.00	0.0	-0.0344	-0.0052	-0.0130	0.2003	-0.3009	-0.0881	-0.0137	-0.0621	0.1558	0.7049
6	3.00	0.0	-0.0152	-0.0030	0.0110	0.1859	-0.0626	-0.1542	-0.0284	-0.0679	0.1797	0.4288
7	4.00	0.0	-0.0507	-0.0114	0.0015	0.2130	-0.7028	-0.1089	-0.0255	-0.1018	0.1352	0.5380
8	5.00	0.0	-0.0455	-0.0090	0.0131	0.2000	-0.7075	-0.2522	-0.0375	-0.1142	0.1485	0.4529
9	6.00	0.0	-0.0310	-0.0000	0.0117	0.1533	-0.3781	-0.3232	-0.0463	-0.1638	0.1525	0.4448
10	7.00	0.0	-0.0746	-0.0150	-0.0088	0.2017	0.1170	-0.3681	-0.0506	-0.1499	0.1373	0.4073
11	8.00	0.0	-0.0257	-0.0030	-0.0100	0.1355	-0.6220	-0.0272	-0.0550	-0.1800	0.1391	0.4363
12	9.00	0.0	-0.0331	-0.0034	0.0000	0.1100	-0.2500	-0.4030	-0.0454	-0.2153	0.1352	0.4440
13	10.00	0.0	-0.0200	-0.0022	0.0000	0.1007	-0.4007	-0.5273	-0.0670	-0.2302	0.1277	0.4442
14	11.00	0.0	-0.0000	-0.0000	-0.0000	0.1000	0.1000	-0.5000	-0.0700	-0.2500	0.1250	0.4213
15	12.00	0.0	-0.0000	-0.0000	0.0000	0.1000	-0.0000	-0.0000	-0.0733	-0.2000	0.1130	0.4500
16	13.51	0.0	-0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.7292	-0.0000	-0.2942	0.1180	0.4034
17	14.00	0.0	-0.0313	-0.0000	-0.0000	0.1530	-0.2825	-0.7870	-0.0000	-0.3220	0.1100	0.4100
18	15.50	0.0	-0.0350	-0.0070	0.0000	0.1902	-0.0722	-0.8462	-0.0000	-0.3379	0.1130	0.3903
19	16.00	0.0	-0.0200	-0.0000	0.0000	0.0000	-0.0000	-0.9000	-0.0000	-0.3000	0.1070	0.3825
20	17.55	0.0	-0.0370	-0.0000	0.0000	0.1000	-1.1000	-0.4032	-0.0000	-0.3650	0.1037	0.3870
21	18.52	0.0	-0.0370	-0.0000	0.0000	0.1000	-0.2000	-0.9721	-0.0000	-0.3615	0.0993	0.3710
22	19.53	0.0	-0.0000	0.0000	0.0000	-0.4195	-0.3790	-1.0180	-0.0000	-0.3775	0.0928	0.3706

TEST PART NAME: RALU-8 M1 C-10 L1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 3P 0.5V 0.7 100.0 M3-CF15 0.0 0 0 0 0 FIXED

POINT	ALPHA	BETA	CMF3	CM3	CB3	XCPF3	YCPF3	CMF4	CM4	CB4	XCPF4	YCPF4
1	-1.50	0.0	-0.0113	-0.0110	0.0003	0.9255	-0.3802	0.0669	0.0181	0.0146	0.2562	0.2082
2	-0.50	0.0	-0.0044	-0.0045	0.0020	1.2226	-0.3800	0.0241	0.0116	-0.0079	0.4001	-0.0980
3	0.01	0.0	-0.0020	-0.0114	0.0009	0.7752	-0.3800	-0.0063	0.0056	-0.0230	-1.2856	5.3141
4	1.00	0.0	-0.0045	-0.0110	0.0115	0.6171	-0.3798	-0.0063	-0.0020	-0.0391	0.0589	0.8104
5	2.00	0.0	-0.0047	-0.0113	0.0117	0.6052	-0.3792	-0.0057	-0.0121	-0.0516	0.1343	0.5746
6	3.00	0.0	0.0027	0.0145	-0.0090	0.6137	-0.3794	-0.0131	-0.0174	-0.0801	0.1326	0.6890
7	4.00	0.0	-0.0040	-0.0110	0.0020	1.2052	-0.3797	-0.0176	-0.0200	-0.0966	0.1343	0.5519
8	5.00	0.0	-0.0027	-0.0115	0.0000	0.7055	-0.3798	-0.0237	-0.0311	-0.1194	0.1323	0.5080
9	6.00	0.0	-0.0020	-0.0124	0.0004	0.5854	-0.3798	-0.0282	-0.0350	-0.1485	0.1256	0.5206
10	7.00	0.0	0.0020	0.0062	-0.0000	0.3335	-0.3799	-0.0373	-0.0469	-0.1746	0.1349	0.5027
11	8.00	0.0	0.0025	0.0112	-0.0003	0.4001	-0.3799	-0.0402	-0.0499	-0.1739	0.1261	0.4320
12	9.00	0.0	-0.0017	-0.0104	0.0003	0.6010	-0.3801	-0.0405	-0.0589	-0.2215	0.1279	0.4809
13	10.00	0.0	-0.0110	-0.0110	0.0003	0.5700	-0.3797	-0.0517	-0.0630	-0.2666	0.1220	0.4791
14	11.00	0.0	-0.0070	-0.0107	0.0103	0.6104	-0.3798	-0.0506	-0.0661	-0.2706	0.1169	0.4784
15	12.00	0.0	-0.0103	-0.0120	0.0031	0.6013	-0.3631	-0.0528	-0.0707	-0.2937	0.1124	0.4672
16	13.00	0.0	-0.0077	-0.0122	0.0004	0.4043	-0.3797	-0.0690	-0.0720	-0.3122	0.1040	0.4511
17	14.00	0.0	0.0000	-0.0050	-0.0007	0.2310	-0.3791	-0.0736	-0.0660	-0.2996	0.0897	0.4070
18	15.00	0.0	-0.0020	-0.0043	0.0000	0.3332	-0.3798	-0.0754	-0.0813	-0.3681	0.0985	0.4460
19	16.00	0.0	-0.0000	-0.0000	0.0000	0.5012	-0.3797	-0.0812	-0.0839	-0.3651	0.0901	0.4321
20	17.00	0.0	0.0110	0.0110	0.0000	0.1000	0.0000	-0.0937	-0.0820	-0.4071	0.0886	0.4355
21	18.00	0.0	0.0000	0.0000	0.0000	0.2255	-0.1309	-0.0917	-0.0816	-0.4216	0.0832	0.4284
22	19.00	0.0	0.0103	-0.0000	-0.0013	-0.0201	-0.0074	-1.0039	-0.0549	-0.4094	0.0817	0.3929

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: RAIL-6 PHI: CONF: 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 34 0.54 1.1 100.0 0.0 0.0 0 0 0 0 FIXED

POINT	ALPHA	BETA	CL	CLM	CY	CLN	CLL	CA	CAM	CAF	ACP
1	-1.00	0.0	-0.0226	-0.1723	-0.0271	0.0137	-0.0086	0.3071	0.1035	0.1975	-1.3495
2	-0.54	0.0	-0.0241	-0.1633	-0.0264	0.0174	-0.0132	0.3054	0.1036	0.2023	-2.2557
3	0.02	0.0	-0.0222	-0.1653	-0.0337	0.0162	-0.0124	0.3081	0.0943	0.2138	-1.2894
4	1.46	0.0	0.1174	-0.2224	-0.0345	0.0312	-0.0125	0.3056	0.0957	0.2049	-1.2596
5	2.99	0.0	0.2271	-0.4420	-0.0240	0.0134	-0.0088	0.3031	0.0981	0.2050	-1.6025
6	3.46	0.0	0.3424	-0.6434	-0.0244	0.0217	-0.0045	0.3030	0.1025	0.2005	-1.4882
7	4.96	0.0	0.5133	-0.8227	-0.0136	0.0249	-0.0063	0.3006	0.1015	0.1992	-1.5951
8	5.44	0.0	0.6443	-1.0422	-0.0164	0.0011	-0.0045	0.2944	0.0999	0.1949	-1.6498
9	6.93	0.0	0.8557	-1.3613	-0.0207	0.0223	-0.0064	0.3007	0.1074	0.1933	-1.7248
10	7.49	0.0	0.9727	-1.7504	-0.0322	0.0272	-0.0042	0.3100	0.1181	0.1919	-1.7944
11	8.51	0.0	1.1131	-2.0436	-0.0313	0.0242	-0.0067	0.3054	0.1186	0.1873	-1.8280
12	9.53	0.0	1.2713	-2.3662	-0.0323	0.0234	-0.0086	0.3092	0.1244	0.1848	-1.8639
13	10.54	0.0	1.4405	-2.7161	-0.0224	0.0072	-0.0038	0.3140	0.1262	0.1658	-1.8748
14	11.55	0.0	1.5747	-2.9813	-0.0243	0.0271	-0.0043	0.3115	0.1300	0.1755	-1.8761
15	12.53	0.0	1.7733	-3.3713	-0.0262	0.0226	-0.0065	0.3114	0.1307	0.1727	-1.8908
16	13.54	0.0	1.9553	-3.7604	-0.0265	0.0177	-0.0091	0.3085	0.1444	0.1641	-1.8915
17	14.53	0.0	2.1471	-4.0000	-0.0268	0.0243	-0.0025	0.3074	0.1480	0.1594	-1.8934
18	15.54	0.0	2.2720	-4.3144	-0.0183	-0.0146	-0.0106	0.2940	0.1544	0.1445	-1.8899
19	16.56	0.0	2.3641	-4.7553	-0.0060	0.0243	-0.0175	0.3063	0.1688	0.1314	-1.8991
20	17.58	0.0	2.6110	-5.1134	-0.0067	-0.0040	-0.0171	0.3041	0.1754	0.1287	-1.9060
21	18.57	0.0	2.8419	-5.5107	0.0013	-0.0036	-0.0224	0.3125	0.1900	0.1217	-1.9150
22	19.60	0.0	3.0600	-5.9120	0.0064	-0.0552	-0.0317	0.3105	0.1976	0.1129	-1.9110

TEST POINT NAME RAISON												
2	39	0.54	1.1	1000	0.340	15	0.0	0	0	0	0	0
DEL1	DEL2	DEL3	DEL4	TRANSITION								
POINT	ALPHA	HETA	CNF1	CM1	CM2	YCMF1	YCMF2	CMF2	CM2	CM2	XCMF2	YCMF2
1	-1.50	0.0	-0.0301	-0.0072	0.0000	-0.0112	-0.07817	-0.0561	0.0086	0.0059	0.1539	0.1051
2	-0.54	0.0	-0.0354	-0.0067	0.0000	-0.0175	0.0085	0.0270	0.0046	-0.0008	0.1719	-0.0300
3	0.52	0.0	-0.0356	-0.0067	0.0000	-0.0176	-0.01468	-0.0140	-0.0030	-0.0275	0.2150	-1.9608
4	1.46	0.0	-0.0243	-0.0044	0.0024	0.01747	-0.00842	-0.00622	-0.0133	-0.0317	0.2138	0.5090
5	2.46	0.0	-0.0246	-0.0044	0.0024	0.01747	-0.00842	-0.00622	-0.0133	-0.0317	0.2138	0.5090
6	3.46	0.0	-0.0245	-0.0041	0.0022	0.01557	-0.00904	-0.01541	-0.0253	-0.0742	0.1641	0.4816
7	4.46	0.0	-0.0175	-0.0045	0.0015	-0.02136	-0.03657	-0.02011	-0.0305	-0.0565	0.1516	0.4797
8	5.46	0.0	-0.0173	-0.0045	0.0013	-0.02135	-0.00462	-0.02497	-0.0305	-0.1114	0.1461	0.4541
9	6.43	0.0	-0.0174	-0.0045	0.0013	-0.02135	-0.00462	-0.02497	-0.0305	-0.1114	0.1461	0.4541
10	7.44	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
11	8.51	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
12	9.53	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
13	10.53	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
14	11.55	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
15	12.53	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
16	13.54	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
17	14.53	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
18	15.54	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
19	16.54	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
20	17.50	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
21	18.57	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523
22	19.60	0.0	-0.0343	-0.0075	0.0074	-0.01920	0.01849	-0.03791	-0.0512	-0.1715	0.1350	0.4523

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART	NAME	HA10=0	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION		
2	39 J-5V	1.01	100.0	03-0515	0.0	0	0	0	0	FIXED		
POINT	ALPHA	BETA	CNF3	CNF3	CNF3	YCNF3	YCNF3	CNF4	CNF4	CNF4	YCNF4	YCNF4
1	-1.66	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	-0.54	0.0	-0.0173	-0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.62	0.0	-0.0124	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	1.66	0.0	-0.0177	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	2.66	0.0	-0.0141	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	3.66	0.0	-0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	4.66	0.0	-0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	5.66	0.0	-0.0170	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	6.63	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	7.69	0.0	-0.0013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	8.51	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	9.53	0.0	-0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	10.53	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	11.55	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	12.53	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	13.54	0.0	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	14.53	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	15.54	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	16.56	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	17.50	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	18.57	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	19.50	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TEST PART NAME RAU-6    PWT    COME    L    DEL1    DEL2    DEL3    DEL4    TRANSITION  
 2    40 V.5V 1.3    100.0 030UF15    0.0    0    0    0    0    FIXED

POINT	ALPHA	BETA	CX	CLM	CY	CLN	CLL	CA	CAR	CAF	ACP
1	-1.54	0.0	-0.1323	-0.1662	-0.0024	0.0171	-0.0135	0.2412	0.0460	0.1953	-1.4072
2	-0.48	0.0	-0.0324	-0.0515	-0.0023	0.0076	-0.0122	0.2903	0.0474	0.1979	-1.5701
3	0.48	0.0	0.0324	0.0515	0.0023	0.0155	-0.0134	0.2904	0.0482	0.1922	-1.1801
4	1.44	0.0	0.1711	-0.2222	-0.0222	0.0365	-0.0197	0.2904	0.0486	0.1914	-1.2492
5	2.43	0.0	0.2769	-0.3333	-0.0333	0.0226	-0.0124	0.2471	0.1005	0.1466	-1.3743
6	3.44	0.0	0.3444	-0.4444	-0.0444	0.0214	-0.0044	0.2464	0.1016	0.1453	-1.5282
7	4.44	0.0	0.4444	-0.5444	-0.0544	0.0169	-0.0112	0.2462	0.1014	0.1447	-1.6069
8	5.47	0.0	0.4444	-0.5444	-0.0544	0.0337	-0.0043	0.2433	0.1008	0.1426	-1.6674
9	6.44	0.0	0.4444	-0.5444	-0.0544	0.0246	-0.0046	0.2479	0.1068	0.1792	-1.7500
10	7.46	0.0	0.9324	-1.0427	-0.0257	0.0249	-0.0075	0.2444	0.1119	0.1775	-1.8141
11	8.50	0.0	1.1124	-1.2464	-0.0262	0.0252	-0.0062	0.2454	0.1205	0.1750	-1.8523
12	9.44	0.0	1.2451	-1.3464	-0.0224	0.0204	-0.0065	0.2972	0.1244	0.1778	-1.8848
13	10.53	0.0	1.4444	-1.4444	-0.0224	0.0245	-0.0064	0.2461	0.1321	0.1640	-1.8970
14	11.44	0.0	1.4444	-1.4444	-0.0244	0.0161	-0.0078	0.2444	0.1391	0.1603	-1.9089
15	12.55	0.0	1.7444	-1.6444	-0.0244	0.0140	-0.0064	0.3024	0.1474	0.1551	-1.9134
16	13.55	0.0	1.9444	-1.7222	-0.0244	0.0244	-0.0064	0.2956	0.1499	0.1457	-1.9082
17	14.56	0.0	2.1544	-1.8111	-0.0244	0.0237	-0.0062	0.2433	0.1543	0.1391	-1.9059
18	15.56	0.0	2.4127	-1.9474	-0.0227	0.0143	-0.0100	0.2904	0.1578	0.1330	-1.9016
19	16.61	0.0	2.5244	-2.0444	-0.0244	0.0034	-0.0100	0.2464	0.1545	0.1314	-1.9004
20	17.41	0.0	2.7622	-2.1472	-0.0224	-0.0046	-0.0151	0.2412	0.1706	0.1207	-1.8863
21	18.60	0.0	2.8744	-2.2444	-0.0173	0.0142	-0.0174	0.2940	0.1844	0.1094	-1.8817
22	19.64	0.0	3.0500	-2.3444	-0.0044	-0.0242	-0.0306	0.2423	0.1947	0.0976	-1.8802

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION AND JET TUNNEL FACILITY (PAT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME BALL-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 INTRANSITION  
 2 40 1.5 1.3 100.0 15 0.0 0 0 0 0 0 FIXED

POINT	ALPHA	PHI	CONF	DEL1	DEL2	DEL3	DEL4	INTRANSITION	KCPF1	YCPF1	KCPF2	YCPF2
1	-1.54	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	-0.54	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	1.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	2.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	3.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	4.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	5.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	6.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	7.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	8.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	9.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	10.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	11.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15	12.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
16	13.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	14.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	15.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
19	16.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	17.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	18.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	19.46	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TEST PART EACH. EXPOS. P-1. CONF. L CELL DEL2 DEL3 DEL4 TRANSITION  
 2 0.0 0.5V 1.3 180.0 0.3-0.15 0.0 0 0 0 0 FIXED

POINT	ALPHA	EFFA	CNF3	CN3	Cc3	YCPF3	YCPF3	CNF4	CN4	Cc4	XCPF4	YCPF4
1	-1.55	0.0	-0.0122	-0.0103	0.0004	0.5174	-0.3601	0.0554	0.0144	0.0116	0.2583	0.2082
2	-0.54	0.0	-0.0144	-0.0104	0.0075	0.5474	-0.3749	0.0230	0.0101	-0.0046	0.4267	-0.1951
3	0.00	0.0	-0.0020	-0.0000	0.0010	0.2250	-0.3798	-0.0166	0.0019	-0.0199	-0.1144	1.2044
4	1.04	0.0	-0.0020	-0.0122	0.0000	0.5480	-0.3749	-0.0503	-0.0055	-0.0379	0.1100	0.7537
5	2.43	0.0	-0.0444	-0.0174	0.0110	0.5747	-0.3800	-0.0414	-0.0132	-0.0528	0.1449	0.5773
6	3.44	0.0	-0.0004	-0.0024	0.0025	0.4477	-0.3804	-0.1374	-0.0192	-0.0797	0.1396	0.5000
7	4.44	0.0	-0.0051	-0.0034	0.0005	0.6433	-0.7451	0.1547	-0.0263	0.1021	0.1394	0.5410
8	5.47	0.0	-0.0117	-0.0044	0.0004	0.5371	-0.3796	-0.2414	-0.0334	-0.1227	0.1403	0.5082
9	6.44	0.0	-0.0144	-0.0000	0.0055	0.4724	-0.3796	-0.2930	-0.0384	-0.1550	0.1310	0.5291
10	7.48	0.0	0.0003	0.0021	-0.0001	0.5703	-0.3600	-0.3571	-0.0464	-0.1757	0.1299	0.4919
11	8.50	0.0	-0.0041	-0.0041	0.0031	0.4925	-0.3894	-0.4193	-0.0513	-0.1914	0.1223	0.4545
12	9.49	0.0	-0.0074	-0.0131	0.0100	0.4474	-0.3800	-0.4733	-0.0578	-0.2285	0.1222	0.4028
13	10.53	0.0	-0.0004	-0.0035	0.0034	0.3449	-0.3600	-0.5337	-0.0636	-0.2548	0.1193	0.4776
14	11.54	0.0	-0.0111	-0.0091	0.0009	0.5024	-0.3747	-0.5413	-0.0677	-0.2795	0.1145	0.4720
15	12.55	0.0	-0.0134	-0.0093	0.0004	0.4434	-0.2610	-0.5544	-0.0734	-0.3045	0.1128	0.4678
16	13.55	1.0	-0.0234	-0.0114	0.0047	0.4504	-0.3794	-0.7014	-0.0749	-0.3149	0.1067	0.4515
17	14.56	0.0	-0.0141	-0.0074	0.0073	0.4144	-0.3749	-0.7510	-0.0740	-0.3214	0.0984	0.4285
18	15.56	0.0	-0.0101	-0.0054	0.0061	0.3400	-0.3800	-0.7264	-0.0844	-0.3640	0.1021	0.4427
19	16.61	0.0	-0.0144	-0.0054	0.0047	0.3047	-0.2534	-0.8444	-0.0877	-0.3878	0.0991	0.4385
20	17.61	0.0	-0.0134	-0.0044	0.0073	0.3332	-0.5436	-0.7364	-0.0882	-0.4046	0.0941	0.4321
21	18.60	0.0	-0.0074	-0.0034	0.0073	0.5132	-0.9555	-0.4736	-0.0866	-0.4129	0.0890	0.4240
22	19.64	0.0	-0.0013	-0.0014	0.0081	0.5444	-0.3798	-1.0427	-0.0882	-0.4225	0.0846	0.4052



ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MANTIC MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST DATA SUMMARY												
POINT	ALPHA	HETA	CX	CLX	CY	CLY	CLL	CA	CAB	CAF	KCP	TRANSITION
2	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	FIXED
1	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.2535	0.1050	0.1445	-1.4079	
2	0.50	0.00	-0.0007	0.0007	-0.0077	0.0000	-0.0047	0.2537	0.1071	0.1461	-0.8441	
3	0.67	0.00	0.0039	-0.0039	0.0039	0.0000	0.0005	0.2553	0.1069	0.1466	-1.4100	
4	1.49	0.00	0.0052	-0.0052	0.0064	0.0000	-0.0030	0.2547	0.1089	0.1458	-1.4064	
5	2.53	0.00	0.0021	-0.0021	0.0067	0.0000	-0.0038	0.2511	0.1085	0.1456	-1.4745	
6	3.51	0.00	0.0031	-0.0031	0.0059	0.0000	-0.0009	0.2507	0.1092	0.1415	-1.5602	
7	4.53	0.00	0.0001	-0.0001	0.0000	0.0000	0.0015	0.2514	0.1041	0.1457	-1.6206	
8	5.57	0.00	0.0000	-0.0000	0.0050	0.0000	-0.0003	0.2564	0.1095	0.1474	-1.7080	
9	6.56	0.00	0.0000	-0.0000	0.0000	0.0000	0.0007	0.2636	0.1104	0.1447	-1.7738	
10	7.56	0.00	0.0002	-0.0002	0.0056	0.0000	0.0013	0.2656	0.1249	0.1407	-1.8291	
11	8.60	0.00	0.0001	-0.0001	0.0079	0.0000	0.0003	0.2686	0.1304	0.1381	-1.8679	
12	9.65	0.00	0.0000	-0.0000	0.0070	0.0000	0.0014	0.2681	0.1364	0.1317	-1.8990	
13	10.60	0.00	0.0000	-0.0000	0.0000	0.0000	0.0015	0.2694	0.1432	0.1266	-1.9170	
14	11.73	0.00	0.0000	-0.0000	0.0033	0.0000	-0.0006	0.2692	0.1490	0.1142	-1.9249	
15	12.75	0.00	0.0000	-0.0000	0.0024	0.0000	-0.0005	0.2673	0.1524	0.1146	-1.9285	
16	13.76	0.00	0.0000	-0.0000	0.0002	0.0000	-0.0002	0.2653	0.1577	0.1076	-1.9210	
17	14.80	0.00	0.0000	-0.0000	0.0000	0.0000	-0.0007	0.2626	0.1630	0.0986	-1.9078	
18	15.44	0.00	0.0000	-0.0000	0.0029	0.0000	-0.0013	0.2616	0.1670	0.0948	-1.8933	
19	15.89	0.00	0.0000	-0.0000	0.0029	0.0000	-0.0017	0.2596	0.1755	0.0628	-1.8731	
20	17.93	0.00	0.0000	-0.0000	0.0012	0.0000	-0.0006	0.2601	0.1871	0.0730	-1.8490	
21	18.97	0.00	0.0000	-0.0000	0.0000	0.0000	-0.0019	0.2636	0.1981	0.0650	-1.8301	
22	20.01	0.00	0.0000	-0.0000	0.0012	0.0000	-0.0020	0.2632	0.2090	0.0542	-1.8127	

TEST	API	PAID	EXID	PAID	CONE	L	DEL1	DEL2	DEL3	DELA	TRANSITION	
2	01	0.5V	3.0	10000	0300F15	0.0	0	0	0	0	FIXED	
POINT	ALPHA	BETA	CNF1	CNF1	CNF1	YCPF1	YCPF1	CNF2	CNF2	CNF2	YCPF2	YCPF2
1	-1.01	0.0	-0.0135	-0.0010	-0.0051	0.1002	0.3751	0.0386	0.0067	0.0116	0.1189	0.3930
2	-0.55	0.0	-0.0111	-0.0132	0.0023	0.1513	-0.1074	0.0024	-0.0004	-0.0015	-0.1505	-0.5305
3	0.67	0.0	-0.0110	-0.0011	-0.0005	0.0356	0.5882	-0.6386	-0.0071	-0.0223	-0.1828	0.5791
4	1.44	0.0	-0.0125	-0.0012	0.0023	0.0920	-0.1815	-0.0805	-0.0166	-0.0361	0.1818	0.4479
5	2.53	0.0	-0.0107	-0.0005	-0.0025	0.0461	0.2331	-0.1233	-0.0209	-0.0550	0.1695	0.4464
6	3.51	0.0	-0.0107	-0.0005	0.0032	0.0439	-0.3013	-0.1777	-0.0744	-0.0745	0.1627	0.4410
7	4.53	0.0	-0.0130	-0.0010	0.0027	0.1033	-0.1475	-0.2200	-0.0351	-0.1035	0.1533	0.4520
8	5.57	0.0	-0.0174	-0.0024	-0.0022	0.1356	0.1248	-0.2927	-0.0442	-0.1260	0.1510	0.4304
9	6.58	0.0	-0.0125	-0.0012	-0.0051	0.0926	0.4081	-0.3585	-0.0514	-0.1570	0.1448	0.4380
10	7.58	0.0	-0.0111	-0.0007	-0.0054	0.0670	0.4946	-0.4172	-0.0573	-0.1431	0.1372	0.4308
11	8.60	0.0	-0.0088	-0.0004	-0.0050	-0.0327	0.5794	-0.4436	-0.0638	-0.2115	0.1320	0.4373
12	9.65	0.0	-0.0073	-0.0005	-0.0037	-0.1530	0.7019	-0.5505	-0.0704	-0.2342	0.1278	0.4327
13	10.68	0.0	-0.0100	-0.0001	-0.0005	-0.0050	0.0519	-0.6149	-0.0743	-0.2621	0.1209	0.4262
14	11.73	0.0	-0.0081	-0.0011	-0.0025	-0.1471	0.4279	-0.4817	-0.0793	-0.2451	0.1164	0.4182
15	12.75	0.0	-0.0120	-0.0030	-0.0023	-0.0318	0.1824	-0.7451	-0.0836	-0.3092	0.1125	0.4150
16	13.78	0.0	-0.0054	-0.0007	-0.0009	-0.1062	0.9449	-0.4132	-0.0491	-0.3303	0.1096	0.4062
17	14.80	0.0	-0.0057	-0.0010	-0.0025	-0.1715	0.4625	-0.4714	-0.0928	-0.3467	0.1065	0.3970
18	15.84	0.0	-0.0050	-0.0007	-0.0050	-0.1042	-0.7408	-0.9320	-0.0972	-0.3671	0.1043	0.3939
19	16.89	0.0	-0.0050	-0.0010	-0.0005	-0.2579	0.8349	-0.4769	-0.1012	-0.3779	0.1036	0.3860
20	17.93	0.0	-0.0050	-0.0010	-0.0021	-0.2576	0.3794	-1.0213	-0.1046	-0.3473	0.1024	0.3793
21	18.97	0.0	-0.0027	-0.0013	-0.0003	-0.6627	-13.2571	-1.0650	-0.1033	-0.3424	0.0970	0.3686
22	20.01	0.0	-0.0027	-0.0027	-0.0034	-0.4024	1.2841	-1.1004	-0.0994	-0.3957	0.0903	0.3595



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	PAK	MACH	REF	PHI	CONF	1	DEL1	DEL2	DEL3	DEL4	TRANSITION
2	47	0.50	0.0	0.0	0300F15	0.0	0	0	0	0	FREE
POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAB	CAF	XCP
1	-1.61	0.0	-0.1244	0.2000	-0.1621	0.1010	0.0163	0.4562	0.0363	0.3579	-1.6378
2	-0.62	0.0	-0.0743	0.0030	-0.1567	0.1373	0.0070	0.4509	0.0792	0.3717	-0.7837
3	0.62	0.0	0.0276	-0.0139	-0.1531	0.1527	0.0073	0.4508	0.0879	0.3627	-0.5055
4	1.61	0.0	0.1243	-0.2010	-0.1667	0.1441	0.0052	0.4409	0.0984	0.3425	-1.5667
5	2.60	0.0	0.2203	-0.3300	-0.1530	0.1487	0.0143	0.4559	0.1000	0.3519	-1.4806
6	3.60	0.0	0.3720	-0.5700	-0.1437	0.1372	0.0136	0.4460	0.0950	0.3506	-1.5455
7	4.63	0.0	0.4525	-0.7200	-0.1500	0.1270	0.0072	0.4410	0.0850	0.3555	-1.6000
8	5.61	0.0	0.4907	-1.1167	-0.1543	0.1570	0.0053	0.4345	0.0938	0.3506	-1.6759
9	6.34	0.0	0.5400	-1.1900	-0.1451	0.1355	0.0052	0.4430	0.0979	0.3551	-1.7213
10	7.62	0.0	0.6000	-1.5212	-0.1334	0.1255	0.0087	0.4345	0.0950	0.3389	-1.7509
11	8.62	0.0	1.0652	-1.6000	-0.1300	0.1220	0.0095	0.4255	0.1000	0.3200	-1.7850
12	9.61	0.0	1.1700	-2.1207	-0.1300	0.1140	0.0097	0.3943	0.1118	0.2825	-1.8142
13	10.65	0.0	1.1000	-2.7320	-0.1430	0.1100	0.0067	0.3923	0.1127	0.2796	-1.8316
14	11.64	0.0	1.4900	-2.7737	-0.1370	0.1350	0.0132	0.3834	0.1220	0.2614	-1.8611
15	12.66	0.0	1.6750	-3.1410	-0.1160	0.1000	0.0106	0.3800	0.1262	0.2538	-1.8752
16	13.66	0.0	1.8221	-3.3430	-0.1195	0.0969	0.0174	0.3819	0.1360	0.2451	-1.8624
17	14.63	0.0	2.0030	-3.7227	-0.1273	0.1050	0.0206	0.3982	0.1473	0.2509	-1.8577
18	15.66	0.0	2.2830	-4.2400	-0.1070	0.0704	0.0140	0.3989	0.1523	0.2465	-1.8761
19	16.60	0.0	2.5000	-4.7100	-0.1100	0.0575	0.0152	0.3967	0.1610	0.2329	-1.8802
20	17.65	0.0	2.7274	-5.0470	-0.1350	0.0404	0.0333	0.4057	0.1597	0.2460	-1.8691
21	18.50	0.0	3.0000	-5.5000	-0.0900	0.0136	0.0177	0.3937	0.1717	0.2221	-1.8535
22	19.50	0.0	3.6000	-5.7617	-0.1071	0.0572	0.0072	0.3950	0.1622	0.2135	-1.8367

ARMED ENGINEERING DEVELOPMENT CENTER (AEC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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SHEET 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME EXID-6													
2		47 0.50 0.4		0.0 0.0 0.15		0.0		0		0		0	
TRANSITION FREE													
POINT	ALPHA	META	CMF1	CM1	CM1	XCPF1	YCPF1	CMF2	CM2	CM2	XCPF2	YCPF2	
1	0.01	0.0	-0.0100	-0.0000	-0.0000	0.2355	0.0	-0.0000	-0.0000	-0.0000	0.1915	0.0000	0.0630
2	0.02	0.0	-0.0100	-0.0000	-0.0000	0.1350	-0.0100	-0.0100	-0.0000	0.0073	0.2091	-0.0254	
3	0.03	0.0	-0.0100	-0.0000	-0.0000	0.2355	-0.0750	-0.0000	-0.0000	0.0252	0.9058	-13.0000	
4	1.01	0.0	-0.0100	-0.0000	-0.0000	0.2367	0.3782	0.0000	0.0000	0.0025	0.0300	0.0610	0.9105
5	2.00	0.0	0.0	0.0	0.0	0.0	0.0130	0.1182	0.0250	0.0160	0.2154	0.1352	
6	3.00	0.0	-0.0050	-0.0000	0.0000	0.0107	-0.0000	0.1300	0.0100	0.0500	0.1525	0.0131	
7	4.03	0.0	-0.0027	-0.0000	0.0000	0.2355	-0.0000	0.2000	0.0300	0.0500	0.1673	0.2015	
8	5.01	0.0	0.0	0.0	0.0	0.0	-0.0000	0.2554	0.0300	0.0052	0.1534	0.3336	
9	6.00	0.0	0.0	0.0	0.0	0.0	0.0000	0.2000	0.0300	0.1200	0.1021	0.0000	
10	7.02	0.0	-0.0000	-0.0000	-0.0000	0.2355	1.3372	0.3000	0.0501	0.1195	0.1431	0.3416	
11	8.00	0.0	-0.0000	-0.0000	-0.0000	0.2355	3.0000	0.0171	0.0500	0.1450	0.1401	0.3477	
12	9.01	0.0	0.0000	0.0000	-0.0000	0.2372	-0.0000	0.0500	0.0500	0.1974	0.1223	0.0311	
13	10.00	0.0	0.0000	0.0000	0.0000	0.3200	0.1955	0.0500	0.0500	0.1996	0.1303	0.3671	
14	11.00	0.0	-0.0000	-0.0000	-0.0000	0.0113	5.0000	0.0500	0.0500	0.2210	0.1302	0.3714	
15	12.00	0.0	0.0100	0.0000	-0.0000	0.2355	-0.0000	0.0500	0.0500	0.2500	0.1255	0.3900	
16	13.00	0.0	-0.0000	-0.0000	-0.0000	0.2355	1.0000	0.0500	0.0500	0.2507	0.1235	0.3600	
17	14.00	0.0	0.0000	0.0000	-0.0000	0.1017	-2.0000	0.0500	0.0500	0.2730	0.1135	0.3070	
18	15.00	0.0	-0.0000	-0.0000	0.0000	0.2355	-0.0000	0.0500	0.0500	0.2603	0.1093	0.3673	
19	16.00	0.0	0.0000	0.0000	-0.0000	0.1017	-1.0000	0.0500	0.0500	0.3000	0.1001	0.3019	
20	17.00	0.0	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0500	0.0500	0.3079	0.1001	0.3432	
21	18.00	0.0	-0.0000	-0.0000	-0.0000	0.2355	-1.0000	0.0500	0.0500	0.3500	0.0917	0.3001	
22	19.00	0.0	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0500	0.0500	0.3603	0.0877	0.3000	

TEST PART NAME RAIL PH1 CONF L CELL DEL2 DEL3 DEL4 TRANSITION															
2		47 0.57 0.4		0.0 03.0F15		0.0		0		0		0		FREE	
POINT	ALPHA	MFTA	CNF3	CM3	CM3	XCPF3	YCPF3	CNF4	CM4	CM4	XCPF4	YCPF4			
1	1.41	0.0	0.0001	0.0013	0.0056	0.0002	1.0043	0.0537	0.0053	0.0037	0.0007	0.0057			
2	0.42	0.0	0.0004	1.0017	0.0107	0.0017	0.0248	0.0004	0.0030	0.0142	0.04593	2.4005			
3	0.42	0.0	0.0152	0.0001	0.0001	0.0031	0.0000	0.0000	0.0000	0.0141	0.0163	16.0095			
4	1.41	0.0	0.0020	0.0020	0.0000	0.0005	0.0215	0.0201	0.0500	0.0000	0.0206	0.0003			
5	2.40	0.0	0.0002	0.0000	0.0002	0.0010	0.0001	0.0026	0.0244	0.0248	0.0242	0.0000			
6	3.40	0.0	0.0011	0.0015	0.0018	0.0120	0.0000	0.0243	0.0005	0.0000	0.0238	0.0005			
7	4.43	0.0	0.0101	0.0000	0.0002	0.0005	0.0005	0.0007	0.0000	0.0000	0.0000	0.0000			
8	5.41	0.0	0.0004	0.0001	0.0001	1.0034	0.0001	0.0023	0.0007	0.0000	0.0000	0.0000			
9	6.38	0.0	0.0101	0.0000	0.0007	0.0012	0.0000	0.0000	0.0005	0.0000	0.0000	0.0000			
10	7.42	0.0	0.0032	0.0013	0.0000	0.0005	0.0002	0.0000	0.0007	0.0000	0.0000	0.0000			
11	8.42	0.0	0.0017	0.0000	0.0005	0.0010	0.0005	0.0000	0.0012	0.0000	0.0000	0.0000			
12	9.41	0.0	0.0051	0.0012	0.0000	0.0001	1.0005	0.0000	0.0000	0.0000	0.0000	0.0000			
13	10.45	0.0	0.0001	0.0012	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
14	11.44	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
15	12.46	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
16	13.46	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
17	14.43	0.0	0.0012	0.0024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
18	15.46	0.0	0.0002	0.0012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
19	16.46	0.0	0.0012	0.0024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
20	17.45	0.0	0.0012	0.0015	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
21	18.50	0.0	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
22	19.50	0.0	0.0000	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			

ARMED ENGINEERING DEVELOPMENT CENTER (EDC) PROPELSION AND TUNNEL FACILITY (PTF) AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 3  
 SHEET 1 OF 1  
 MARLIN MISSILE TAIL EFFECTS DATA

TEST PART MACH 0.50 0.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0											
DELTA DELTA DELTA DELTA DELTA DELTA DELTA DELTA DELTA DELTA DELTA DELTA											
FREE											
POINT	ALPHA	BETA	CX	CY	CZ	CLX	CLY	CLZ	CA	CB	CC
1	-1.00	0.00	-0.1343	0.1914	-0.00830	0.0740	0.0024	0.3629	0.0993	0.2636	-1.6286
2	-0.60	0.00	-0.0441	0.0774	-0.00447	0.0016	0.0054	0.3675	0.0873	0.2802	-1.3101
3	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.3705	0.0837	0.2868	-1.6561
4	1.00	0.00	0.1614	-0.1350	-0.00481	0.0037	0.0031	0.3656	0.0946	0.2709	-1.3313
5	2.00	0.00	0.2542	-0.3534	-0.0027	0.0731	0.0057	0.3613	0.0999	0.2610	-1.3919
6	3.00	0.00	0.3552	-0.5601	-0.0009	0.0000	0.0000	0.3607	0.1000	0.2607	-1.5335
7	4.00	0.00	0.4700	-0.7412	-0.0017	0.0000	0.0000	0.3604	0.0958	0.2652	-1.6510
8	5.00	0.00	0.5943	-1.0036	-0.0733	0.0000	0.0000	0.3583	0.0959	0.2674	-1.6475
9	6.00	0.00	0.7500	-1.3280	-0.0730	0.0000	0.0000	0.3586	0.1013	0.2583	-1.7027
10	7.00	0.00	0.9049	-1.6284	-0.0740	0.0074	0.0020	0.3561	0.1102	0.2458	-1.7918
11	8.00	0.00	1.0154	-1.8640	-0.0810	0.0752	0.0076	0.3652	0.1130	0.2518	-1.8365
12	9.00	0.00	1.1052	-2.1743	-0.0956	0.0000	0.0042	0.3544	0.1185	0.2362	-1.8388
13	10.00	0.00	1.3003	-2.5424	-0.0743	0.0000	0.0055	0.3572	0.1247	0.2276	-1.8810
14	11.00	0.00	1.5310	-2.9214	-0.0707	0.0000	-0.0005	0.3554	0.1342	0.2215	-1.9089
15	12.00	0.00	1.7713	-3.1743	-0.0665	0.0000	0.0114	0.3461	0.1353	0.2129	-1.8989
16	13.00	0.00	1.9500	-3.5504	-0.0645	0.0000	0.0050	0.3230	0.1360	0.1849	-1.9282
17	14.00	0.00	1.9500	-3.8800	-0.0537	0.0000	0.0052	0.3185	0.1384	0.1801	-1.9353
18	15.00	0.00	2.1214	-4.1342	-0.0500	0.0075	0.0101	0.3204	0.1477	0.1727	-1.9491
19	16.00	0.00	2.3800	-4.6520	-0.0520	0.0000	0.0120	0.3300	0.1663	0.1662	-1.9737
20	17.00	0.00	2.5013	-5.0575	-0.0553	0.0000	0.0107	0.3346	0.1703	0.1642	-1.9773
21	18.00	0.00	2.7000	-5.3500	-0.0507	0.0000	0.0187	0.3362	0.1773	0.1589	-1.9777
22	19.00	0.00	2.9100	-5.7602	-0.0330	-0.0034	0.0197	0.3340	0.1876	0.1468	-1.9748

TEST MARTIN MISSILE R10-6													
P			PHI			L			DEL1			DEL2	
2			4R 0.5V 0.7			0.0 0.0 0.0			0			0	
												FREE	
POINT	ALPHA	BETA	CMF1	CM1	CM2	YCPF1	YCPF1	CMF2	CM2	CB2	YCPF2	YCPF2	
1	-1.60	0.0	-0.0015	-0.0000	-0.0007	-0.0000	-0.0000	-0.0009	-0.0102	-0.0262	0.2134	0.5503	
2	-0.60	0.0	0.0015	0.0000	0.0007	1.5754	-10.4338	-0.0171	-0.0000	-0.0031	0.2803	0.1837	
3	-0.63	0.0	-0.0076	-0.0000	-0.0022	0.0021	-0.3786	0.0193	0.0018	-0.0017	0.0938	-0.1889	
4	1.43	0.0	0.0035	0.0021	0.0007	0.0106	-2.7493	0.0029	0.0009	0.0187	0.1090	0.2965	
5	2.41	0.0	-0.0075	-0.0000	-0.0022	0.0014	-3.7040	0.0102	0.0161	0.0224	0.1590	0.2212	
6	3.43	0.0	-0.0095	-0.0013	0.0105	0.2363	-1.0883	0.1414	0.0199	0.0533	0.1407	0.3770	
7	4.43	0.0	-0.0235	-0.0000	0.0000	0.1821	-0.3779	0.2097	0.0300	0.0552	0.1642	0.2634	
8	5.44	0.0	-0.0075	-0.0000	-0.0007	0.0013	1.7863	0.2601	0.0421	0.0757	0.1610	0.2911	
9	6.42	0.0	0.0000	0.0000	-0.0076	0.0019	-0.3780	0.2967	0.0308	0.1177	0.1317	0.3995	
10	7.42	0.0	-0.0076	-0.0000	-0.0007	0.0010	0.0596	0.3566	0.0485	0.1339	0.1361	0.3754	
11	8.44	0.0	0.0000	0.0000	-0.0035	0.0029	-3.6165	0.0395	0.0625	0.1556	0.1622	0.3540	
12	9.43	0.0	-0.0130	-0.0010	-0.0154	0.1359	1.7274	0.0676	0.0596	0.1844	0.1274	0.3941	
13	10.44	0.0	-0.0000	0.0000	0.0000	-0.0205	-0.5500	0.5397	0.0713	0.1914	0.1322	0.3546	
14	11.44	0.0	0.0000	0.0000	-0.0000	0.0000	-0.0505	0.4062	0.0771	0.2235	0.1272	0.3606	
15	12.44	0.0	0.0035	0.0022	-0.00517	0.0000	-10.6232	0.6751	0.0870	0.2369	0.1269	0.3500	
16	13.50	0.0	0.0111	0.0022	-0.0037	0.2705	-3.4056	0.7556	0.0885	0.2875	0.1171	0.3804	
17	14.46	0.0	0.0000	0.0000	-0.0033	0.0120	-11.0732	0.7965	0.0873	0.3031	0.1096	0.3808	
18	15.47	0.0	-0.0000	-0.0030	0.0000	0.1358	-0.7181	0.4505	0.0926	0.3040	0.1089	0.3633	
19	16.48	0.0	0.0000	0.0000	0.0000	0.0000	1.6426	0.5084	0.0977	0.3260	0.1075	0.3587	
20	17.49	0.0	-0.0000	-0.0030	-0.0019	0.1354	0.7422	0.9553	0.0983	0.3424	0.1024	0.3584	
21	18.50	0.0	-0.0000	-0.0030	-0.0022	0.1574	0.4540	0.9908	0.0965	0.3522	0.0974	0.3554	
22	19.52	0.0	-0.0015	-0.0000	-0.0000	0.1534	1.4714	1.0175	0.0950	0.3582	0.0934	0.3521	



ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION AND TUNNEL FACILITY (PT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

POINT	TEST EAST HALF RAILROAD											TRANSITION
	ALPHA	ETA	CNF3	CH3	CH3	ACPF3	YCPF3	CNF4	CH4	Cd4	XCPF4	YCPF4
1	-1.52	0.0	0.0113	0.0000	-0.00123	0.0111	-1.1947	-0.0043	-0.0067	-0.0318	0.1390	0.6518
2	-0.50	0.0	0.0145	0.0000	-0.00097	0.5952	-0.0043	-0.0092	0.0006	-0.0172	-0.0666	1.0790
3	0.03	0.0	0.0122	0.0000	-0.0008	0.5503	-0.3790	-0.0175	0.0065	0.0059	0.3728	0.3358
4	1.03	0.0	-0.0171	-0.0004	0.0016	0.5007	-0.1032	0.1026	0.0358	0.0024	0.3492	0.0234
5	2.01	0.0	0.0035	0.0022	-0.0055	0.5506	-1.5311	0.1393	0.0255	0.0268	0.2329	0.2630
6	3.03	0.0	-0.0030	-0.0150	0.0003	0.4725	-0.2523	0.1309	0.0307	0.0848	0.2209	0.6105
7	4.03	0.0	-1.0010	-0.0000	-0.0070	0.2248	-1.1644	0.2016	0.0367	0.0750	0.1818	0.3762
8	5.04	0.0	-0.0130	-0.0070	0.0000	0.4022	-0.3007	0.2359	0.0468	0.1216	0.1986	0.5153
9	6.02	0.0	-0.0244	-0.0100	0.0001	0.4536	-0.3797	0.3055	0.0449	0.1299	0.1471	0.4252
10	7.02	0.0	-0.0147	-0.0000	0.0014	0.4113	-0.0933	0.3637	0.0578	0.1657	0.1590	0.4555
11	8.00	0.0	-0.0000	-0.0020	-0.0050	0.4200	0.6713	0.0221	0.0613	0.1765	0.1452	0.4229
12	9.03	0.0	-0.0135	-0.0130	0.0074	0.4040	-0.2471	0.4044	0.0701	0.2016	0.1446	0.4150
13	10.00	0.0	-0.0017	-0.0121	0.0000	0.5101	-0.2030	0.5282	0.0718	0.2265	0.1359	0.4289
14	11.00	0.0	-0.0000	0.0001	-0.0003	-0.0000	1.1266	0.5091	0.0738	0.2814	0.1297	0.4945
15	12.00	0.0	-0.0500	-0.0070	0.0100	0.5502	-0.2955	0.6720	0.1007	0.2653	0.1617	0.3908
16	13.00	0.0	-0.0000	0.0010	-0.0077	-0.0075	1.5443	0.7203	0.0830	0.3104	0.1158	0.4308
17	14.00	0.0	-0.0277	-0.0117	0.0003	0.0235	-0.2270	0.7060	0.0865	0.3253	0.1129	0.4267
18	15.07	0.0	-0.0235	-0.0100	0.0104	0.4538	-0.2031	0.6317	0.0496	0.3402	0.1077	0.4162
19	16.00	0.0	-0.0100	-0.0020	-0.0002	0.2243	0.0219	0.6945	0.1923	0.3718	0.1027	0.4130
20	17.00	0.0	-0.0100	-0.0000	0.0012	0.3240	-0.0020	0.9400	0.0907	0.3727	0.0999	0.3931
21	18.00	0.0	-0.0000	-0.0000	-0.0000	0.0037	1.1843	0.9922	0.0000	0.3987	0.0905	0.4018
22	19.52	0.0	-0.0000	-0.0000	0.0000	0.3303	-0.0370	1.0059	0.0016	0.4104	0.0076	0.3901

TEST MART - ALM 2412-0											
2 49 0.54 1.1 0.0 03-0415 0.0 0 0 0 0 0 FREE											
POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAB	CAF	XCP
1	-1.61	0.0	-0.1404	0.1454	-0.0570	0.0550	0.0023	0.3160	0.0934	0.2226	-1.3205
2	-0.40	0.0	-0.0544	0.0763	-0.0571	0.0404	0.0033	0.3202	0.0937	0.2205	-1.4026
3	0.03	0.0	0.0144	-0.0413	-0.0551	0.0543	0.0017	0.3145	0.0944	0.2201	-0.7931
4	1.43	0.0	0.1453	-0.1476	-0.0533	0.0455	0.0046	0.3202	0.0974	0.2228	-1.3602
5	2.02	0.0	0.2507	-0.2533	-0.0534	0.0472	0.0051	0.3185	0.0961	0.2223	-1.4093
6	3.44	0.0	0.4510	-0.4541	-0.0556	0.0542	0.0013	0.3153	0.0950	0.2204	-1.5028
7	4.86	0.0	0.5500	-0.5545	-0.0557	0.0413	0.0019	0.3124	0.0945	0.2160	-1.5979
8	5.39	0.0	0.7177	-1.0320	-0.0491	0.0402	0.0023	0.3117	0.0975	0.2142	-1.6719
9	6.85	0.0	0.7754	-1.3401	-0.0459	0.0342	0.0057	0.3143	0.1038	0.2105	-1.7271
10	7.07	0.0	0.9127	-1.6326	-0.0348	0.0373	0.0051	0.3156	0.1111	0.2045	-1.7890
11	8.07	0.0	1.0741	-1.9491	-0.0474	0.0417	0.0023	0.3192	0.1173	0.2019	-1.8519
12	9.46	0.0	1.2720	-2.3121	-0.0414	0.0330	0.0050	0.3176	0.1227	0.1954	-1.8840
13	10.00	0.0	1.4470	-2.5743	-0.0443	0.0343	0.0057	0.3259	0.1280	0.1979	-1.9032
14	11.50	0.0	1.5522	-2.9430	-0.0391	0.0210	0.0044	0.3195	0.1334	0.1864	-1.9099
15	12.51	0.0	1.7330	-3.3200	-0.0357	0.0153	0.0100	0.3193	0.1300	0.1869	-1.9140
16	13.40	0.0	1.9103	-3.6662	-0.0374	0.0234	0.0055	0.3183	0.1476	0.1707	-1.9202
17	14.04	0.0	2.0750	-3.9420	-0.0327	0.0193	0.0041	0.3118	0.1531	0.1587	-1.9183
18	15.54	0.0	2.2970	-4.3407	-0.0272	0.0154	0.0056	0.3040	0.1404	0.1436	-1.9086
19	16.50	0.0	2.4500	-4.7141	-0.0184	0.0127	0.0036	0.2940	0.1608	0.1242	-1.9211
20	17.50	0.0	2.5544	-4.9904	-0.0225	0.0034	0.0052	0.2900	0.1467	0.1133	-1.9253
21	18.57	0.0	2.7550	-5.2262	-0.0008	0.0022	0.0120	0.2897	0.1737	0.1160	-1.9315
22	19.56	0.0	2.9505	-5.6513	0.0370	-0.1740	0.0117	0.2843	0.1865	0.0976	-1.9510

AERONAUTICAL ENGINEERING DEVELOPMENT CENTER (AEC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 2 OF 3

MANTI-MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: KX100-0													
2		49 v. 1.1	0.0	CONF	0.0	DEL1	0	DEL2	0	DEL3	0	DEL4	TRANSITION
FREE													
POINT	ALPHA	BETA	CNF1	CNF2	CNF3	YCNF1	YCNF2	CNF2	CNF3	CNF4	YCNF2	YCNF3	
1	-1.01	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1276	-0.0039	-0.0000	-0.0220	0.1956	0.5008	
2	-0.60	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1355	0.2621	-0.0155	-0.0000	-0.0056	0.2019	
3	0.43	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1045	0.6370	0.0208	0.0017	-0.0026	0.0610	
4	1.03	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1043	1.2459	0.0571	0.0073	0.0190	0.1271	
5	2.42	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1308	-1.0181	0.1086	0.0196	0.0261	0.1408	
6	3.44	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1355	0.2614	0.1499	0.0235	0.0495	0.1590	
7	4.44	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1144	0.1144	0.1990	0.0301	0.0722	0.1514	
8	5.34	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1535	0.6740	0.2515	0.0301	0.0940	0.1514	
9	6.35	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1422	0.1411	0.3089	0.0435	0.1242	0.1410	
10	7.47	0.0	-0.0000	-0.0000	-0.0000	-0.0000	10.0377	0.3736	0.0529	0.1448	0.1415	0.3074	
11	8.47	0.0	-0.0000	-0.0000	-0.0000	-0.0000	1.9224	-9.6700	0.0440	0.0615	0.1672	0.1386	
12	9.46	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1084	0.2312	0.4906	0.0640	0.1917	0.1304	
13	10.46	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1654	-0.6024	0.5648	0.0752	0.2007	0.1324	
14	11.50	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0620	4.0605	0.6172	0.0796	0.2357	0.1274	
15	12.51	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0600	5.1965	0.6730	0.0821	0.2569	0.1220	
16	13.44	0.0	-0.0000	-0.0000	-0.0000	-0.0000	4.6111	-6.3160	0.7349	0.0474	0.2740	0.1109	
17	14.49	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0204	12.1298	0.7814	0.0879	0.2937	0.1125	
18	15.54	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0415	-0.1007	0.8494	0.0930	0.3205	0.1045	
19	16.54	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1420	-0.0255	0.9008	0.0959	0.3417	0.1065	
20	17.50	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1192	0.6157	0.9750	0.1017	0.3551	0.1043	
21	18.57	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.1237	-0.1048	1.0143	0.0964	0.3510	0.0975	
22	19.56	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.6106	-5.9191	1.0568	0.0886	0.3770	0.0839	

TEST PART DATA		PDI		CONF		DEL1		DEL2		DEL3		DEL4		TRANSITION	
POINT	ALPHA	MFT4	CMF4	CM3	CM3	YCPF3	YCPF3	CMF4	CM4	CM4	YCPF4	YCPF4	CM4	YCPF4	FREE
1	-1.61	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
2	-0.80	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
3	0.43	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
4	1.43	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
5	2.42	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
6	3.44	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
7	4.44	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
8	5.34	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
9	6.45	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
10	7.47	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
11	8.47	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
12	9.48	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
13	10.48	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
14	11.50	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
15	12.51	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
16	13.48	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
17	14.44	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
18	15.54	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
19	16.54	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
20	17.50	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
21	18.57	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000
22	19.56	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	-0.0000	0.0000	0.0000

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PENINSULA WILD TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: 50 J-59 3-4											
PWT CUMF 0.0 33-0F15 0.0											
DEL1 DEL2 DEL3 DEL4 TRANSITION											
2 50 J-59 3-4 0.0 33-0F15 0.0 0 0 0 0 0 FREE											
POINT	ALPHA	BETA	CN	CL	CT	CLM	CLL	CA	CAR	CAF	ACP
1	-1.53	0.0	-0.1307	0.1475	-0.0133	0.0041	0.0016	0.2630	0.1046	0.1588	-1.5114
2	-0.58	0.0	-0.0737	0.1472	-0.0116	0.0101	0.0002	0.2611	0.1040	0.1571	-1.9958
3	0.42	0.0	0.0722	0.1472	-0.0136	0.0101	0.0021	0.2608	0.1076	0.1531	-1.2027
4	1.45	0.0	0.1025	-0.241-	-0.0049	0.0040	0.0035	0.2576	0.1059	0.1517	-1.3254
5	2.47	0.0	0.0900	-0.3472	-0.0107	0.0127	0.0027	0.2556	0.1055	0.1501	-1.3888
6	3.50	0.0	0.0171	-0.0367	-0.0077	0.0077	0.0079	0.2545	0.1044	0.1451	-1.5128
7	4.51	0.0	0.549-	-1.001-	-0.0054	0.0035	0.0043	0.2535	0.1040	0.1446	-1.5945
8	5.52	0.0	0.0730	-1.1270	-0.0062	0.0044	0.0041	0.2595	0.1109	0.1446	-1.6619
9	6.57	0.0	0.0245	-1.0067	-0.0066	0.0074	0.0050	0.2626	0.1184	0.1443	-1.7457
10	7.59	0.0	0.944-	-1.746-	-0.0064	0.0130	0.0072	0.2661	0.1244	0.1418	-1.8075
11	8.62	0.0	1.155-	-2.162-	-0.0037	0.0063	0.0060	0.2660	0.1279	0.1381	-1.8527
12	9.63	0.0	1.3240	-2.5047	-0.0024	0.0026	0.0061	0.2654	0.1332	0.1322	-1.8860
13	10.62	0.0	1.5127	-2.8501	-0.0040	0.0049	0.0112	0.2649	0.1394	0.1254	-1.9033
14	11.67	0.0	1.6933	-3.2041	-0.0061	0.0061	0.0139	0.2650	0.1457	0.1193	-1.9196
15	12.67	0.0	1.8590	-3.5523	-0.0031	0.0107	0.0091	0.2599	0.1441	0.1108	-1.9260
16	13.75	0.0	2.0054	-3.9500	-0.0021	0.0071	0.0061	0.2541	0.1570	0.1004	-1.9146
17	14.71	0.0	2.2057	-4.2513	-0.0002	0.0016	0.0064	0.2546	0.1622	0.0925	-1.9066
18	15.63	0.0	2.4524	-4.5513	0.0020	-0.0030	0.0044	0.2542	0.1686	0.0556	-1.8962
19	16.58	0.0	2.6330	-4.8522	0.0009	-0.0059	0.0041	0.2494	0.1737	0.0757	-1.8874
20	17.47	0.0	2.8134	-5.2390	0.0044	-0.0080	0.0074	0.2470	0.1420	0.0651	-1.8584
21	18.93	0.0	3.0341	-5.5514	0.0097	-0.0153	0.0061	0.2447	0.1899	0.0588	-1.8297
22	19.95	0.0	3.2144	-5.9013	0.0201	-0.0416	0.0133	0.2479	0.2031	0.0448	-1.8048

TEST MARTIN MISSILE-D													
2		50 6.5v 3.0		0.0 0.300F15		0.0		0		0		0	
DEL1		DEL2		DEL3		DEL4		TRANSITION		FREE			
POINT	ALPHA	BETA	CNF1	CNF1	CNF1	YCPF1	YCPF1	CNF2	CNF2	CNF2	YCPF2	YCPF2	
1	-1.53	0.0	-0.0000	0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
2	-0.54	0.0	-0.0000	0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
3	0.62	0.0	-0.0000	0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
4	1.45	0.0	-0.0053	0.0000	-0.0029	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
5	2.67	0.0	-0.0035	0.0015	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
6	3.50	0.0	-0.0004	0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
7	4.51	0.0	-0.0000	0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
8	5.52	0.0	-0.0000	0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
9	6.57	0.0	-0.0013	0.0013	-0.0012	-0.0012	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
10	7.54	0.0	-0.0034	0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
11	8.62	0.0	-0.0030	0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
12	9.63	0.0	-0.0020	0.0010	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
13	10.62	0.0	-0.0020	0.0017	-0.0017	-0.0017	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
14	11.67	0.0	-0.0012	0.0000	-0.0011	-0.0011	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
15	12.67	0.0	-0.0052	0.0001	-0.0011	-0.0011	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
16	13.75	0.0	-0.0071	-0.0000	-0.0007	-0.0007	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
17	14.77	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
18	15.63	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
19	16.88	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
20	17.77	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
21	18.33	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000
22	19.45	0.0	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000

AERONAUTICAL ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: RLW-6 PWTF CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION

2 50 0.54 3.4 0.0 63 0.15 0.0 0 0 0 0 0 FREE

POINT	ALPHA	BETA	C-FF	C-M3	C-63	XCPF3	YCPF3	C-FF4	C-M4	C-64	XCPF4	YCPF4
1	-1.64	0.0	-0.0000	-0.0000	0.0000	0.2220	-0.3770	-0.0413	-0.0060	-0.0237	0.1452	0.5725
2	-0.56	0.0	0.0034	0.0030	-0.0007	0.7457	-0.1004	-0.0004	0.0006	-0.0002	-0.1366	1.0580
3	0.02	0.0	-0.0007	-0.0010	0.0010	0.3479	-0.3643	0.0303	0.0067	0.0097	0.2208	0.3198
4	1.45	0.0	-0.0100	-0.0070	0.0065	0.5003	-0.4308	0.0765	0.0171	0.0238	0.2177	0.3035
5	2.47	0.0	-0.0000	-0.0017	0.0027	0.3305	-0.5670	0.1133	0.0106	0.0457	0.1729	0.4038
6	3.50	0.0	-0.0100	-0.0090	0.0057	0.4151	-0.4443	0.1027	0.0272	0.0764	0.1680	0.4708
7	4.51	0.0	-0.0007	-0.0020	0.0010	0.4135	-0.2628	0.2123	0.0336	0.0932	0.1575	0.4300
8	5.52	0.0	-0.0100	-0.0045	0.0031	0.4030	-0.3001	0.2641	0.0410	0.1205	0.1588	0.4564
9	6.57	0.0	-0.0000	-0.0034	0.0025	0.3505	-0.2830	0.3305	0.0463	0.1491	0.1408	0.4510
10	7.59	0.0	-0.0000	-0.0036	0.0017	0.4066	-0.1935	0.3910	0.0535	0.1804	0.1366	0.4604
11	8.62	0.0	-0.0000	-0.0029	0.0014	0.3107	-0.1964	0.4545	0.0589	0.2097	0.1296	0.4592
12	9.63	0.0	-0.0100	-0.0052	0.0004	0.3427	-0.3199	0.5171	0.0650	0.2354	0.1258	0.4552
13	10.62	0.0	-0.0000	-0.0033	0.0020	0.3301	-0.2961	0.5775	0.0691	0.2668	0.1196	0.4585
14	11.67	0.0	-0.0000	-0.0005	0.0001	0.1151	-0.0217	0.6472	0.0734	0.2991	0.1143	0.4657
15	12.67	0.0	-0.0000	-0.0000	0.0000	0.4216	-0.3200	0.7086	0.0829	0.3127	0.1171	0.4414
16	13.75	0.0	-0.0000	-0.0021	0.0014	0.2626	-0.1728	0.7631	0.0813	0.3376	0.1065	0.4424
17	14.77	0.0	-0.0000	-0.0020	0.0035	0.2565	-0.3700	0.8170	0.0800	0.3588	0.1033	0.4392
18	15.83	0.0	-0.0013	-0.0030	0.0035	0.3403	-0.3067	0.8645	0.0805	0.3798	0.1012	0.4294
19	16.88	0.0	-0.0000	-0.0010	0.0023	0.2209	-0.2770	0.9367	0.0927	0.3967	0.0992	0.4264
20	17.97	0.0	-0.0000	-0.0000	0.0000	0.3303	-0.3272	0.9790	0.0961	0.4107	0.0981	0.4191
21	18.93	0.0	-0.0025	-0.0030	0.0030	0.2700	-0.3100	1.0250	0.0971	0.4166	0.0967	0.4082
22	19.95	0.0	-0.0000	-0.0005	0.0052	0.3440	-0.3201	1.0677	0.0950	0.4300	0.0894	0.4028

TEST PART NAME: 57 URB 2.5											
PHI: 0.0 CONE: 0.0 L: 0 DEL1: 0 DEL2: 0 DEL3: 0 DEL4: 0 TRANSITION: FREE											
POINT	ALPHA	MFA	CL	CLM	CY	CLN	CLL	CA	CAB	CAF	ACP
1	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	0.00	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MANTIS MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: 57 UBBU 2.5												
PWT CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION												
2 57 UBBU 2.5 0.0 030UP15 0.0 0 0 0 0 FREE												
POINT	ALPHA	WTA	CPX1	LM1	COL	ACPF1	YCPF1	CPF2	CM2	CM7	KCPF2	YCPF2
1	-1.56	0.0	-0.0115	-0.0010	-0.0003	0.1351	0.0214	-0.0531	-0.0101	-0.0244	0.1405	0.5539
2	-0.64	0.0	-0.0044	-0.0010	-0.0003	0.1048	-0.0400	-0.0141	-0.0035	-0.0114	0.2462	0.0074
3	0.43	0.0	-0.0131	-0.0020	-0.0003	0.1602	-0.02563	0.0225	0.0028	0.0030	0.1288	0.1340
4	1.42	0.0	-0.0114	-0.0014	0.0043	0.1357	-0.03785	0.0633	0.0098	0.0171	0.1557	0.2710
5	2.47	0.0	-0.0244	-0.0015	-0.0003	0.1681	-0.05572	0.1098	0.0172	0.0367	0.1562	0.3344
6	3.46	0.0	-0.0135	-0.0023	0.0005	0.1724	-0.0370	0.1587	0.0246	0.0561	0.1563	0.3534
7	5.46	0.0	-0.0105	-0.0030	0.0017	0.2020	-0.1024	0.2766	0.1403	0.1051	0.1469	0.3829
8	9.40	0.0	-0.0100	-0.0025	0.0064	0.2361	-0.06303	0.5354	0.0655	0.2132	0.1223	0.3983
9	13.70	0.0	-0.0110	-0.0020	-0.0000	0.2113	-0.3485	0.7917	0.0807	0.3045	0.1019	0.3846
10	17.04	0.0	-0.0115	-0.0034	0.0014	0.3369	-0.1409	1.5168	0.0825	0.3760	0.0811	0.3698
11	19.95	0.0	-0.0114	-0.0037	-0.0010	0.3098	-0.0796	1.0672	0.0732	0.3807	0.0806	0.3567
12	25.21	0.0	-0.0340	-0.0065	-0.0024	0.1952	0.0681	1.2176	0.0569	0.4228	0.0469	0.3487
13	27.67	0.0	-0.0234	-0.0060	-0.0010	0.1818	0.0374	1.2605	0.0482	0.4371	0.0343	0.3468

TEST PART NAME PEL-6 FMI CONF L CELL CEL2 DEL3 DEL4 TRANSITION												
2	57	0.00	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	FREE
POINT	ALPHA	BETA	CNF1	CH1	CH3	ACPF3	YCPF3	CNF4	CH4	CH6	XCPF4	YCPF4
1	-1.56	0.0	-0.012	-0.005	0.0003	0.3555	-0.0253	-0.0436	-0.0070	-0.0264	0.1610	0.6049
2	-0.56	0.0	-0.012	-0.005	0.0003	0.3555	-0.0226	-0.0091	-0.0006	-0.0102	0.0626	1.1184
3	0.53	0.0	-0.0135	-0.0043	-0.0004	0.3557	-0.0251	0.0314	0.0070	0.0044	0.2211	0.1883
4	1.42	0.0	-0.0141	-0.0050	-0.0007	0.3537	0.0121	0.0661	0.0117	0.0268	0.1770	0.4053
5	2.47	0.0	-0.0133	-0.0052	-0.0003	0.3777	0.0202	0.1131	0.0192	0.0449	0.1693	0.4144
6	3.48	0.0	-0.0133	-0.0053	-0.0009	0.3541	0.0572	0.1642	0.0269	0.0658	0.1640	0.4192
7	5.66	0.0	-0.0133	-0.0053	-0.0014	0.3655	0.1195	0.2760	0.0408	0.1224	0.1477	0.4434
8	9.40	0.0	-0.0133	-0.0053	-0.0015	0.3279	0.0841	0.5264	0.0427	0.2442	0.1191	0.4638
9	13.76	0.0	-0.0133	-0.0063	-0.0008	0.3151	0.0398	0.7738	-0.0734	0.3423	0.0949	0.4424
10	17.94	0.0	-0.0204	-0.0061	-0.0014	0.3067	0.0401	0.9801	0.0771	0.4046	0.0786	0.4169
11	19.95	0.0	-0.0207	-0.0070	-0.0016	0.3000	0.0665	1.0804	0.0714	0.4345	0.0661	0.4059
12	25.21	0.0	-0.0207	-0.0070	0.0012	0.2946	-0.0404	1.1105	0.0380	0.4311	0.0342	0.3881
13	27.47	0.0	-0.0207	-0.0070	0.0002	0.3245	0.0047	1.1151	0.0303	0.4281	0.0271	0.3839



TEST PART NAME		RAIL-5	PHI	CONF	L	DEL1	DEL2	DEL3	DELA	TRANSITION		
2		54 U.S.D 2.5	0.0	H3-0F15	0.0	0	0	0	0	FREE		
POINT	ALPHA	-ETA	CNF1	CHI	CHI	XCPF1	YCPF1	CNF2	CHI	CHI	XCPF2	YCPF2
1	-1.53	0.0	-0.0113	-0.0013	0.0108	0.2053	-0.5708	-0.0058	-0.0115	-0.0365	0.2111	0.6960
2	-0.44	0.0	-0.0113	-0.0013	0.0107	0.2054	-0.5702	-0.0116	-0.0037	-0.0142	0.3231	1.5669
3	0.42	0.0	-0.0211	-0.0045	0.0012	0.2111	-0.0550	-0.0205	0.0030	-0.0050	0.1238	-0.2028
4	1.44	0.0	-0.0150	-0.0032	0.0069	0.2017	-0.4330	0.0063	0.0041	0.0110	0.1449	0.1740
5	2.47	0.0	-0.0203	-0.0045	0.0051	0.2227	-0.2475	0.1329	0.0175	0.0281	0.1608	0.2584
6	3.47	0.0	-0.0203	-0.0045	0.0074	0.2240	-0.1165	0.1555	0.0251	0.0444	0.1503	0.3080
7	4.44	0.0	-0.0117	-0.0045	-0.0027	0.2307	0.1021	0.2774	0.0404	0.1002	0.1057	0.3612
8	4.44	0.0	-0.0113	-0.0039	0.0107	0.2755	-0.7474	0.4477	0.0403	0.2105	0.1210	0.3844
9	13.70	0.0	-0.0112	-0.0045	-0.0024	0.2520	0.1536	0.0145	-0.0772	0.3067	0.0968	0.3765
10	17.87	0.0	-0.0117	-0.0057	0.0054	0.3910	-0.3780	1.0339	0.0794	0.3732	0.0761	0.3609
11	19.97	0.0	-0.0221	-0.0040	0.0109	0.2760	-0.4479	1.0008	0.0699	0.3772	0.0667	0.3698
12	25.26	0.0	-0.0300	-0.0040	0.0100	0.2574	-0.3240	1.2316	0.0507	0.4231	0.0444	0.3435
13	27.57	0.0	-0.0204	-0.0074	0.0055	0.2755	-0.1930	1.2272	0.0376	0.4164	0.0304	0.3393

AFWOL ENGINEERING DEVELOPMENT CENTER(AEJC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 3 OF 3

ARTI. MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME XALU-6																	
Z		SM V.05 2.5		C.N.F		L		DEL1		DEL2		DEL3		DEL4		TRANSITION	
				0.0 M3.0F15		0.0		0		0		0		0		FREE	
POINT	ALPHA	BETA	CNF3	CM3	CM3	ACPF3	YCPF3	CMF4	CM4	CB4	XCPF4	YCPF4					
1	-1.03	0.0	-0.0155	-0.0004	-0.0002	0.0126	0.2511	-0.0023	-0.0000	-0.0201	0.1482	0.5700					
2	-0.59	0.0	-0.0177	-0.0004	-0.0004	0.0377	0.2176	-0.0053	-0.0000	-0.0005	0.1157	1.6023					
3	0.02	0.0	-0.0175	-0.0071	-0.0009	0.0002	0.2171	-0.0300	-0.0061	-0.0070	0.2020	0.2625					
4	1.44	0.0	-0.0180	-0.0071	-0.0006	0.0307	0.1926	0.0666	0.0114	0.0272	0.1708	0.4087					
5	2.47	0.0	-0.0176	-0.0074	-0.0001	0.0010	0.2000	0.1162	0.0201	0.0654	0.1728	0.3908					
6	3.47	0.0	-0.0172	-0.0075	-0.0002	0.0310	0.2147	0.1656	0.0271	0.0695	0.1636	0.4196					
7	5.49	0.0	-0.0205	-0.0074	-0.0003	0.0363	0.2173	0.2006	0.0610	0.1238	0.1670	0.4412					
8	9.40	0.0	-0.0227	-0.0077	-0.0006	0.0307	0.2008	0.5392	0.0632	0.2490	0.1171	0.4616					
9	13.70	0.0	-0.0200	-0.0074	-0.0005	0.0307	0.1905	0.7472	0.0702	0.3527	0.0001	0.4420					
10	17.47	0.0	-0.0225	-0.0073	-0.0005	0.0303	0.1857	0.6447	0.0710	0.4074	0.0726	0.4121					
11	19.97	0.0	-0.0243	-0.0070	-0.0003	0.0309	0.1313	1.0828	0.0650	0.4331	0.0606	0.4000					
12	25.20	0.0	-0.0270	-0.0100	-0.0015	0.0405	0.0510	1.0740	0.0330	0.4020	0.0315	0.3743					
13	27.47	0.0	-0.0403	-0.0103	-0.0010	0.0407	0.0581	1.0992	0.0200	0.4263	0.0219	0.3879					

TEST PART NAME: RX100B . P-1 CURVE L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 59 0.42 2.5 0.0 0.30UFL 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CL	CLN	CV	CLV	CLL	CA	CAB	CAF	ACP
1	-1.63	0.0	-0.1300	-0.1304	-0.0055	-0.0020	-0.0038	0.3206	0.1090	0.2116	-1.3587
2	-0.61	0.0	-0.0290	0.0057	-0.0055	-0.0059	-0.0050	0.3201	0.1114	0.2042	-1.5757
3	0.34	0.0	0.0547	-0.0607	-0.0030	-0.0113	-0.0036	0.3209	0.1105	0.2105	-0.6814
4	1.46	0.0	0.1644	-0.1929	-0.0004	-0.0147	-0.0025	0.3186	0.1087	0.2049	-1.1387
5	2.87	0.0	0.2846	-0.3442	-0.0005	-0.0114	-0.0016	0.3176	0.1116	0.2060	-1.3638
6	3.44	0.0	0.4100	-0.0221	-0.0026	-0.0007	-0.0012	0.3163	0.1131	0.2032	-1.5176
7	5.53	0.0	0.7116	-0.2043	0.0022	-0.0155	-0.0001	0.3203	0.1120	0.2077	-1.7753
8	9.54	0.0	1.4350	-2.4432	0.0012	-0.0074	0.0036	0.3324	0.1416	0.1911	-2.0772
9	13.59	0.0	2.2410	-4.0001	0.0000	-0.0025	0.0042	0.3333	0.1637	0.1696	-2.1231
10	17.90	0.0	3.1664	-5.3307	0.0201	-0.0776	-0.0007	0.3208	0.1740	0.1418	-2.0016
11	19.90	0.0	3.5707	-6.7140	0.0100	-0.0195	0.0072	0.3259	0.2100	0.1152	-1.8787
12	25.40	0.0	4.8551	-8.9400	0.0779	-0.2743	-0.0722	0.3396	0.2714	0.0692	-1.4905
13	27.70	0.0	5.1571	-8.6413	0.0006	-0.0040	-0.0186	0.3433	0.3114	0.0317	-1.2075

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 2 OF 3

MANTIC MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: RAL-6 P-1 CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION

2 59 0.42 2.0 0.0 03-0715 0.0 0 0 0 0 FREE

POINT	ALPHA	HETA	CX1	CY1	CZ1	XCX1	XCX1	YCX1	YCX1	CX2	CY2	CZ2	XCX2	XCX2
1	-1.63	0.0	-0.0082	-0.0082	0.0111	0.2248	-0.5861	-0.0016	-0.0116	-0.0038	0.2770	0.9266		
2	-0.91	0.0	-0.0080	-0.0080	0.0082	0.2477	-0.3433	-0.0044	-0.0044	-0.0211	0.5091	2.2390		
3	0.39	0.0	-0.0217	-0.0217	0.0057	0.2455	-0.2628	0.0024	0.0037	-0.0059	0.1521	-0.0116		
4	1.46	0.0	-0.0141	-0.0050	0.0067	0.2442	-0.5094	0.0015	0.0115	0.0053	0.1873	0.1017		
5	2.67	0.0	-0.0149	-0.0055	0.0058	0.2755	-0.2939	0.1067	0.0201	0.0227	0.1881	0.2128		
6	3.44	0.0	-0.0230	-0.0061	0.0031	0.2559	-0.1295	0.1561	0.0281	0.0446	0.1799	0.2873		
7	4.53	0.0	-0.0252	-0.0065	0.0008	0.2559	-0.2461	0.2821	0.0470	0.1546	0.1665	0.3362		
8	4.54	0.0	-0.0194	-0.0055	0.0075	0.2750	-0.3702	0.5035	0.0705	0.2044	0.1252	0.3716		
9	13.69	0.0	-0.0249	-0.0055	0.0049	0.2357	-1.1979	0.0410	0.0045	0.3125	0.0826	0.3716		
10	17.86	0.0	-0.0143	-0.0072	0.0073	0.3740	-0.3782	1.0780	0.0632	0.3419	0.0586	0.3636		
11	19.98	0.0	-0.0234	-0.0071	0.0025	0.2126	-0.0765	1.1229	0.0616	0.3928	0.0349	0.3498		
12	25.00	0.0	-0.0216	-0.0044	0.0100	0.4575	-0.6495	1.2697	0.0467	0.4352	0.0368	0.3429		
13	27.76	0.0	-0.0251	-0.0077	0.0000	0.2739	-0.1710	1.1925	0.0263	0.4013	0.0220	0.3365		

AIRMAIL ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST MPT VALM RX10-6 PMI CNF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
2 59 0.42 2.4 0.0 M30GF15 0.0 0 0 0 0 FREE

POINT	ALPHA	MFA	CNF	C-3	C-3	YCPF3	YCPF3	CNF4	CM4	CB4	XCPF4	YCPF4
1	-1.64	1.0	-0.0132	-0.0005	-0.0053	0.0370	0.2736	-0.0373	-0.0098	-0.0288	0.2561	0.6680
2	-0.51	1.0	-0.0210	-0.0007	-0.0099	0.0256	0.2340	-0.0324	-0.0009	-0.0098	0.3135	0.4733
3	0.42	0.0	-0.0209	-0.0007	-0.0099	0.0307	0.2385	-0.0293	-0.0075	-0.0087	0.2588	0.1586
4	1.06	0.0	-0.0230	-0.0005	-0.0038	0.0208	0.1659	0.0659	0.0146	0.0239	0.2209	0.3626
5	2.07	0.0	-0.0212	-0.0007	-0.0051	0.0124	0.2347	0.1140	0.0239	0.0416	0.2093	0.3652
6	3.49	0.0	-0.0230	-0.0005	-0.0053	0.3402	0.2226	0.1632	0.0313	0.0666	0.1916	0.4078
7	5.53	1.0	-0.0227	-0.0005	-0.0057	0.0123	0.2522	0.2065	0.0472	0.1219	0.1659	0.4283
8	6.59	0.0	-0.0207	-0.0005	-0.0059	0.3800	0.2212	0.5538	0.0665	0.2523	0.1201	0.4556
9	13.09	0.0	-0.0214	-0.0007	-0.0050	0.3803	0.1543	0.0250	0.0614	0.3577	0.0745	0.4336
10	17.46	0.0	-0.0209	-0.0005	-0.0046	0.3274	0.1541	1.0323	0.0599	0.4307	0.0580	0.4172
11	19.98	0.0	-0.0336	-0.0105	-0.0083	0.3124	0.1249	1.0977	0.0502	0.4433	0.0494	0.4039
12	25.40	0.0	-0.0309	-0.0116	-0.0017	0.3767	0.0584	1.7446	0.0240	0.4963	0.0230	0.3813
13	27.76	0.0	-0.0352	-0.0125	-0.0025	0.3625	0.0711	1.1083	0.0193	0.4253	0.0174	0.3838



ARMED ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: 2000 P-5											
PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
2 60 0.00 2.5 0.0 03.0F15 0.0 0 0 0 0 FREE											
POINT	ALPHA	BETA	CX	CLM	CY	CLN	CLL	CA	CAH	CAF	KCP
1	-1.53	0.0	-0.165	0.3112	-0.0000	0.0127	-0.0000	0.0171	0.1300	0.2702	-1.0073
2	-0.64	0.0	-0.0403	0.0000	-0.0077	0.0123	-0.0044	0.0002	0.1417	0.2045	-2.0483
3	0.01	0.0	0.0734	-0.1020	-0.0112	0.0265	-0.0065	0.0100	0.1400	0.2760	-1.3990
4	1.45	0.0	0.1434	-0.0154	-0.0060	0.0133	-0.0050	0.0173	0.1400	0.2043	-1.6362
5	2.05	0.0	0.1200	-0.0010	-0.0019	0.0133	-0.0045	0.0125	0.1517	0.2049	-1.7705
6	3.00	0.0	0.0045	-0.0001	-0.0057	0.0000	-0.0029	0.0021	0.1402	0.2529	-1.0009
7	5.52	0.0	0.1001	-0.0000	-0.0003	0.0000	-0.0000	0.0137	0.1560	0.2560	-2.0430
8	9.00	0.0	1.4300	-3.0000	0.0051	-0.0002	0.0019	0.0350	0.1770	0.2500	-2.1065
9	13.73	0.0	2.1000	-5.0000	0.0000	-0.0003	-0.0007	0.0000	0.1950	0.2000	-2.1375
10	17.42	0.0	3.7001	-6.0000	0.0171	-0.0107	-0.0035	0.0325	0.2109	0.2210	-1.9650
11	20.00	0.0	3.7000	-6.0000	0.0137	-0.0100	-0.0013	0.0025	0.2370	0.1900	-1.8207
12	25.50	0.0	5.0010	-7.0000	0.0047	-0.0030	-0.0101	0.0017	0.2900	0.1000	-1.4000
13	28.01	0.0	5.7700	-6.0000	0.0030	-0.0101	-0.0107	0.0000	0.3100	0.0000	-1.2012

TEST PART NAME: P110-6												
PHI: 0.0												
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ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: DELTA-4												
PWT CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION												
2	60	0.48	7.5	0.0	0.30	0.15	0.0	0	0	0	0	FREE
POINT	ALPHA	BETA	CNF3	CNF4	CNF5	ACNF3	YCPF3	CNF4	CNF5	CNF6	XCPF4	YCPF4
1	-1.63	0.0	-0.0225	-0.0045	-0.0000	0.3963	0.2668	-0.0087	-0.0077	-0.0297	0.1581	0.6095
2	-0.54	0.0	-0.0254	-0.0107	-0.0052	0.4014	0.2276	-0.0080	-0.0001	-0.0130	0.0084	2.1703
3	0.61	0.0	-0.0257	-0.0101	-0.0055	0.3957	0.2054	-0.0388	0.0081	0.0053	0.2078	0.1372
4	1.45	0.0	-0.0253	-0.0095	-0.0057	0.3914	0.2273	0.0033	0.0124	0.0243	0.1506	0.3393
5	2.45	0.0	-0.0257	-0.0110	-0.0065	0.3613	0.1550	0.1364	0.0193	0.0502	0.1620	0.3693
6	3.45	0.0	-0.0257	-0.0103	-0.0053	0.3948	0.1977	0.1906	0.0252	0.0771	0.1323	0.4046
7	5.52	0.0	-0.0277	-0.0106	-0.0056	0.3954	0.2023	0.3184	0.0369	0.1368	0.1158	0.4289
8	4.56	0.0	-0.0315	-0.0109	-0.0050	0.3355	0.1596	0.5891	0.0496	0.2650	0.0842	0.4499
9	13.73	0.0	-0.0335	-0.0118	-0.0049	0.3351	0.1462	0.6679	0.0499	0.3706	0.0586	0.4371
10	17.92	0.0	-0.0345	-0.0115	-0.0031	0.3334	0.0884	1.0578	0.0479	0.4494	0.0453	0.4248
11	20.09	0.0	-0.0337	-0.0121	-0.0034	0.3367	0.0941	1.1627	0.0402	0.4764	0.0352	0.4169
12	25.54	0.0	-0.0334	-0.0125	-0.0009	0.3505	0.0239	1.2765	0.0267	0.5131	0.0224	0.4013
13	28.01	0.0	-0.0357	-0.0128	-0.0027	0.3521	0.0748	1.2829	0.0201	0.5121	0.0157	0.3992

TEST PART NAME RAILE-6 EMI CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
2 61 1.14 2.5 0.0 03-0615 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	C	CLM	CV	CLM	CLL	CA	CAB	CAF	XCP
1	-1.00	0.0	-0.1045	0.0070	-0.0155	0.0370	-0.0077	0.5909	0.2070	0.3835	-1.6957
2	-0.91	0.0	-0.0443	0.0507	-0.0150	0.0370	-0.0077	0.5902	0.2143	0.3759	-1.4440
3	-0.86	0.0	0.0537	-0.1572	-0.0130	0.0345	-0.0069	0.5845	0.2105	0.3730	-1.0726
4	-1.45	0.0	0.2032	-0.3540	-0.0109	0.0340	-0.0071	0.5872	0.2176	0.3696	-1.7088
5	-2.05	0.0	0.3321	-0.0143	-0.0111	0.0340	-0.0068	0.5866	0.2185	0.3661	-1.0116
6	-3.09	0.0	0.0016	-0.0019	-0.0113	0.0340	-0.0050	0.5851	0.2203	0.3649	-1.0727
7	-5.50	0.0	0.7300	-1.0521	-0.0069	0.0340	-0.0025	0.5887	0.2267	0.3620	-1.0870
8	-9.63	0.0	1.4142	-3.1143	-0.0033	0.0753	-0.0015	0.4006	0.2501	0.3505	-2.0507
9	-13.74	0.0	2.3100	-0.5244	-0.0015	0.0020	-0.0030	0.5935	0.2562	0.3373	-1.0539
10	-18.07	0.0	3.2473	-5.4395	0.0014	0.0313	-0.0023	0.5924	0.2731	0.3098	-1.7367
11	-20.27	0.0	3.5330	-5.4600	0.0100	0.0340	-0.0075	0.5671	0.2732	0.2960	-1.5560
12	-25.92	0.0	5.3727	-0.2291	0.0313	0.0444	-0.0020	0.5170	0.2908	0.2268	-1.1573
13	-28.39	0.0	6.1770	-0.0750	0.0235	0.0730	-0.0000	0.4431	0.3020	0.1911	-0.9036

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PAT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH AX12-B PM1 CNF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2		01 1.10 2.5		0.00 M30F15 0.0		0	0	0	0	FREE		
POINT	ALPHA	MFA	CN1	CN1	CN1	XCPF1	YCPF1	CN2	CN2	CB2	XCPF2	YCPF2
1	-1.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
2	-0.51	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
3	0.51	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
4	1.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
5	2.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
6	3.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
7	4.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
8	5.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
9	6.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
10	7.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
11	8.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
12	9.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467
13	10.54	0.0	-0.0240	-0.0001	0.0070	0.1650	-0.2854	-0.0608	-0.0119	-0.0454	0.1456	0.7467

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: R110-6												
MFL CODE: 0.0 43-0F15 0.0 0 0 0 0 0 FREE												
POINT	ALPHA	HETA	CNF3	CM3	CS3	XCPF3	YCPF3	CNF4	CM4	CS4	XCPF4	YCPF4
1	-1.54	0.0	-0.0361	-0.0113	-0.0034	0.3737	0.1252	-0.0637	-0.0075	-0.0266	0.1716	0.6553
2	-0.51	0.0	-0.0297	-0.0111	-0.0041	0.3782	0.1404	0.0011	-0.0005	-0.0109	-0.4577	-10.4095
3	0.46	0.0	-0.0133	-0.0111	-0.0041	0.3530	0.1312	0.0474	0.0071	0.0846	0.1501	0.0969
4	1.45	0.0	-0.0301	-0.0104	-0.0044	0.3500	0.1518	0.0906	0.0120	0.0258	0.1415	0.2849
5	2.45	0.0	-0.0328	-0.0113	-0.0023	0.3457	0.0901	0.1466	0.0195	0.0454	0.1389	0.3228
6	3.44	0.0	-0.0315	-0.0111	-0.0040	0.3523	0.1277	0.1946	0.0248	0.0729	0.1273	0.3747
7	5.50	0.0	-0.0335	-0.0114	-0.0052	0.3719	0.1655	0.3184	0.0363	0.1323	0.1078	0.4156
8	9.43	0.0	-0.0323	-0.0114	-0.0037	0.3642	0.1155	0.5755	0.0411	0.2554	0.0715	0.4446
9	13.79	0.0	-0.0349	-0.0121	-0.0036	0.3451	0.1040	0.8153	0.0386	0.3568	0.0474	0.4376
10	16.07	0.0	-0.0364	-0.0122	-0.0037	0.3756	0.1011	1.4233	0.0272	0.4346	0.0266	0.4249
11	20.27	0.0	-0.0351	-0.0126	-0.0034	0.3251	0.0864	1.1046	0.0218	0.4658	0.0197	0.4217
12	25.92	0.0	-0.0417	-0.0135	-0.0014	0.3290	0.0442	1.2793	0.0117	0.5273	0.0092	0.4151
13	28.34	0.0	-0.0346	-0.0123	-0.0015	0.3162	0.0494	1.3092	0.0074	0.5430	0.0056	0.4147

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RAIL-0 ... PMI CONE 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 62 1.24 2.5 0.0 43.0 15 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAP	CAF	KCP
1	-1.54	0.0	-0.1344	-0.1044	-0.0187	0.0451	-0.0112	0.5512	0.1802	0.3711	-1.2129
2	-0.61	0.0	-0.0216	-0.0644	-0.0144	0.0433	-0.0102	0.5447	0.1806	0.3691	1.1235
3	0.82	0.0	0.1473	-0.2104	-0.0166	0.0543	-0.0111	0.5488	0.1842	0.3644	-2.1678
4	1.44	0.0	0.2142	-0.4029	-0.0156	0.0425	-0.0107	0.5467	0.1877	0.3590	-1.8464
5	2.45	0.0	0.3405	-0.6288	-0.0166	0.0331	-0.0111	0.5466	0.1844	0.3573	-1.8147
6	3.44	0.0	0.4403	-0.8415	-0.0190	0.0404	-0.0047	0.5454	0.1918	0.3541	-1.8103
7	5.54	0.0	0.7444	-1.4564	-0.0186	0.0787	-0.0373	0.5522	0.1945	0.3577	-1.8848
8	9.67	0.0	1.4474	-2.4137	-0.0023	0.0732	-0.0381	0.5644	0.2144	0.3552	-1.8942
9	13.86	0.0	2.2604	-3.4557	0.0041	0.0645	-0.0070	0.5645	0.2143	0.3452	-1.7450
10	18.14	0.0	3.2342	-4.7373	-0.0015	0.1052	-0.0100	0.5579	0.2257	0.3321	-1.4648
11	20.47	0.0	3.8516	-5.4473	0.0125	0.0586	-0.0101	0.5503	0.2369	0.3134	-1.2680
12	26.22	0.0	5.4944	-6.4730	0.0314	0.0958	-0.0104	0.5213	0.2596	0.2617	-0.9045
13	28.84	0.0	6.4608	-6.4544	0.0432	0.0741	-0.0072	0.5114	0.2730	0.2368	-0.7803

TEST PART NAME: PAL-6												
PMI CUNE L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2 62 1.20 2.5 0.0 0.30 0.15 0.0 0 0 0 0 FREE												
POINT	ALPHA	BETA	CNF1	CN1	CN2	ACPF1	YCPF1	CNF2	CN2	CR2	XCPF2	YCPF2
1	-1.49	0.0	-0.0339	-0.0329	0.0050	0.0729	-0.1451	-0.0501	-0.0113	-0.0039	0.2208	0.0763
2	-0.01	0.0	-0.0354	-0.0324	0.0017	0.0517	-0.0444	-0.0050	-0.0044	-0.0257	0.9575	5.1012
3	0.42	0.0	-0.0332	-0.0323	0.0055	0.0606	-0.1624	0.0376	0.0005	-0.0116	0.0133	-0.3138
4	1.44	0.0	-0.0325	-0.0322	0.0057	0.0656	-0.1763	0.0653	0.0070	0.0059	0.0824	0.0690
5	2.45	0.0	-0.0325	-0.0322	0.0021	0.0576	-0.0641	0.1327	0.0124	0.0253	0.0936	0.1987
6	3.46	0.0	-0.0357	-0.0331	0.0035	0.0456	-0.1077	0.1453	0.0183	0.0470	0.0989	0.2534
7	5.50	0.0	-0.0356	-0.0331	0.0001	0.1045	0.0038	0.3056	0.0280	0.0988	0.0915	0.3234
8	6.67	0.0	-0.0347	-0.0334	0.0029	0.1173	-0.0831	0.5559	0.0351	0.2033	0.0650	0.3656
9	13.66	0.0	-0.0344	-0.0344	0.0015	0.1244	-0.0435	0.7873	0.0356	0.2948	0.0452	0.3745
10	18.19	0.0	-0.0446	-0.0354	-0.0036	0.1157	0.0657	0.9749	0.0308	0.3625	0.0316	0.3716
11	20.47	0.0	-0.0513	-0.0352	-0.0047	0.0478	0.0326	1.0509	0.0251	0.3858	0.0239	0.3671
12	26.22	0.0	-0.0633	-0.0363	-0.0004	0.0444	0.0128	1.1857	0.0086	0.4352	0.0072	0.3671
13	28.65	0.0	-0.0643	-0.0324	-0.0127	0.0462	0.2937	1.2163	0.0033	0.4444	0.0027	0.3689



ARROW ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME FAI=		PHI	CONE	L	DEL1	DEL2	DEL3	DEL4	TRANSITION			
P	BP 1.20 2.5	0.0	03-0F15	0.0	0	0	0	0	FREE			
POINT	ALPHA	WTA	CMF3	CM3	CB3	XCPF3	YCPF3	CMF4	CM4	CR4	XCPF4	YCPF4
1	-1.00	0.0	-0.0312	-0.0105	-0.0034	0.3311	0.1231	-0.0335	-0.0003	-0.0265	0.2338	0.8003
2	-0.61	0.0	-0.0311	-0.0101	-0.0007	0.3171	0.1441	0.0045	-0.0010	-0.0100	-0.1939	-1.1460
3	0.02	0.0	-0.0311	-0.0100	-0.0016	0.3301	0.1153	0.0520	-0.0040	0.0067	0.0901	0.1270
4	1.00	0.0	-0.0307	-0.0100	-0.0050	0.3000	0.1775	0.0431	0.0090	0.0277	0.0970	0.2977
5	2.00	0.0	-0.0294	-0.0101	-0.0056	0.3305	0.1850	0.1420	0.0152	0.0471	0.1069	0.3315
6	3.00	0.0	-0.0297	-0.0099	-0.0054	0.3317	0.1890	0.1965	0.0207	0.0720	0.1053	0.3603
7	5.00	0.0	-0.0301	-0.0100	-0.0007	0.3056	0.1573	0.3137	0.0261	0.1272	0.0896	0.4056
8	4.07	0.0	-0.0317	-0.0115	-0.0041	0.3014	0.1240	0.5547	0.0322	0.2436	0.0500	0.4392
9	13.00	0.0	-0.0301	-0.0130	-0.0024	0.3767	0.0605	0.7770	0.0290	0.3370	0.0373	0.4300
10	10.10	0.0	-0.0300	-0.0120	-0.0032	0.3591	0.0901	0.9035	0.0211	0.4079	0.0219	0.4233
11	20.07	0.0	-0.0300	-0.0131	-0.0010	0.3555	0.0002	1.0351	0.0156	0.4330	0.0151	0.4103
12	20.20	0.0	-0.0303	-0.0137	0.0013	0.3087	-0.0303	1.1717	0.0019	0.4092	0.0016	0.4175
13	25.00	0.0	-0.0320	-0.0120	0.0007	0.3030	-0.0200	1.2053	-0.0020	0.5065	-0.0020	0.4202

AERONAUTICAL ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST DATA EACH RUN=6													
2			0.0			0.0			0.0			FREE	
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAR	CAR	CAR	XCP	
1	-1.53	0.0	-0.1714	0.3665	0.0466	-0.1050	-0.0275	0.5315	0.1762	0.3548	-2.1356		
2	-0.59	0.0	-0.0757	0.1407	0.0514	-0.1104	-0.0261	0.5297	0.1752	0.3545	-3.2452		
3	0.00	0.0	0.0627	-0.0037	0.0555	-0.0927	-0.0225	0.5295	0.1782	0.3514	-0.8590		
4	1.45	0.0	0.1441	-0.1431	0.0520	-0.0999	-0.0261	0.5286	0.1812	0.3474	-1.0440		
5	2.04	0.0	0.3022	-0.3916	0.0523	-0.1027	-0.0260	0.5245	0.1830	0.3415	-1.2787		
6	3.04	0.0	0.4477	-0.5410	0.0560	-0.1017	-0.0241	0.5223	0.1840	0.3363	-1.4316		
7	5.56	0.0	0.7352	-1.1004	0.0603	-0.1133	-0.0242	0.5324	0.1867	0.3457	-1.5819		
8	9.72	0.0	1.0071	-2.3171	0.0672	-0.1239	-0.0240	0.5507	0.2081	0.3426	-1.6468		
9	13.97	0.0	2.1072	-3.1405	0.0543	-0.0960	-0.0251	0.5405	0.2168	0.3236	-1.4742		
10	18.34	0.0	3.1454	-3.7933	0.0474	-0.0147	-0.0276	0.5308	0.2265	0.3043	-1.1871		
11	20.62	0.0	3.8124	-3.0760	0.0358	0.0550	-0.0316	0.5225	0.2420	0.2805	-1.0160		
12	26.41	0.0	5.5604	-4.1422	0.0320	0.1504	-0.0346	0.5207	0.2407	0.2600	-0.7450		
13	28.94	0.0	6.3443	-4.0450	0.0240	0.1752	-0.0436	0.5341	0.2410	0.2531	-0.7015		

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

SHEET 1 OF 1

MANTLE MISSILE TAIL EFFECTS DATA

TEST PART		MACH		P1		CONF		DEL1		DEL2		DEL3		DEL4		TRANSITION	
2	63	1.24	2.5	0.0	0.3	0.15	0.0	0	0	0	0	0	0	0	0	FREE	
POINT	ALPHA	EF1a	CNF1	CNF	Cb1	XCPF1	YCPF1	CNF2	CNF	CRP	XCPF2	YCPF2					
1	-1.63	0.0	-0.0224	-0.0020	0.0125	0.1111	-0.0004	-0.0561	-0.0006	-0.0540	0.1071	1.0326					
2	-0.59	0.0	-0.0224	-0.0031	0.0169	0.1235	-0.0746	-0.0099	-0.0012	-0.0414	0.1164	4.1840					
3	0.04	0.0	-0.0224	-0.0035	0.0214	0.1358	-0.0804	-0.0320	0.0029	-0.0262	0.0095	-0.7552					
4	1.45	0.0	-0.0230	-0.0027	0.0151	0.1141	-0.0657	0.0767	0.0079	-0.0109	0.1032	-0.1424					
5	2.08	0.0	-0.0224	-0.0041	0.0123	0.1534	-0.0657	0.1238	0.0120	0.0045	0.0968	0.0689					
6	3.44	0.0	-0.0312	-0.0052	0.0202	0.1654	-0.0677	0.1725	0.0159	0.0290	0.0922	0.1679					
7	5.56	0.0	-0.0302	-0.0054	0.0174	0.1756	-0.0688	0.2452	0.0235	0.0748	0.0825	0.2624					
8	9.72	0.0	-0.0347	-0.0067	0.0173	0.1922	-0.0699	0.5174	0.0267	0.1743	0.0555	0.3370					
9	13.47	0.0	-0.0305	-0.0068	0.0055	0.1742	-0.1661	0.7257	0.0272	-0.2594	0.0375	0.3575					
10	18.34	0.0	-0.0543	-0.0077	0.0050	0.1425	-0.0924	0.9026	0.0195	0.3234	0.0216	0.3583					
11	20.62	0.0	-0.0625	-0.0072	0.0043	0.1143	0.0209	0.9760	0.0131	0.3435	0.0135	0.3520					
12	26.41	0.0	-0.0770	-0.0036	-0.0116	0.0446	0.1503	1.0966	-0.0006	0.3857	-0.0007	0.3544					
13	28.43	0.0	-0.1111	-0.0038	-0.0102	0.1533	0.1777	1.1617	-0.0051	0.4138	-0.0044	0.3562					

ARLUG ENGINEERING DEVELOPMENT CENTER (EDC)

PROPULSION AND TUNNEL FACILITY (PAT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART PACH VAL=6 PFI CINE I DEL1 DEL2 DEL3 DEL4 TRANSITION  
2 63 1.24 2.5 0.0 03.0F15 0.0 0 0 0 0 FREE

POINT	ALPHA	META	CNF3	CM3	CM3	XCPF3	YCPF3	CNF4	CM4	CM4	XCPF4	YCPF4
1	-1.53	0.0	-0.0245	-0.0151	0.0051	0.5121	-0.2077	-0.0655	-0.0016	-0.0022	0.0356	0.9256
2	-0.54	0.0	-0.0253	-0.0151	0.0053	0.5408	-0.2049	0.0002	0.0030	-0.0744	12.5150	-101.4583
3	0.48	0.0	-0.0252	-0.0154	0.0052	0.5328	-0.2083	0.0453	0.0071	-0.0051	0.1560	-0.1132
4	1.45	0.0	-0.0217	-0.0136	0.0040	0.6163	-0.1819	0.0862	0.0099	0.0154	0.1136	0.1792
5	2.48	0.0	-0.0241	-0.0143	0.0052	0.6217	-0.2254	0.1366	0.0147	0.0362	0.1074	0.2656
6	3.49	0.0	-0.0204	-0.0132	0.0049	0.6475	-0.2413	0.1870	0.0167	0.0594	0.0998	0.3179
7	5.52	0.0	-0.0192	-0.0145	0.0055	0.7568	-0.3433	0.2485	0.0263	0.1122	0.0829	0.3755
8	9.72	0.0	-0.0152	-0.0171	0.0067	1.1237	-0.5651	0.5293	0.0267	0.2227	0.0504	0.6207
9	13.57	0.0	-0.0134	-0.0213	0.0083	1.0680	-0.6152	0.7317	0.0230	0.3074	0.0315	0.6201
10	18.36	0.0	-0.0245	-0.0192	0.0142	0.6563	-0.1425	0.0965	0.0131	0.3743	0.0146	0.6166
11	20.52	0.0	-0.0352	-0.0266	0.0020	0.5701	-0.0750	0.0626	0.0069	0.3954	0.0072	0.6107
12	24.01	0.0	-0.0377	-0.0194	0.0041	0.5232	-0.1099	1.0759	-0.0076	0.4416	-0.0070	0.6105
13	28.83	0.0	-0.0347	-0.0195	0.0033	0.5053	-0.0860	1.1311	-0.0122	0.4671	-0.0108	0.6129

ARSD ENGINEERING DEVELOPMENT CENTER(AEDC)

PULSISON WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: H10-6											
CONF: 0.0 330F14 0.0											
DEL1 DEL2 DEL3 DEL4 TRANSITION											
2 0.0 0.0 0.0 0.0 FREE											
POINT	ALPHA	WETA	CL	CLM	CY	CLN	CLL	CA	CAR	CAF	ACP
1	1.64	0.0	-0.1300	0.2100	-0.0087	-0.0157	0.0062	0.2409	0.1043	0.1855	-1.5725
2	-0.48	0.0	-0.0344	0.0762	-0.0071	-0.0012	0.0049	0.2893	0.1114	0.1774	-2.1243
3	0.43	0.0	0.0340	-0.0205	-0.0101	-0.0143	0.0052	0.2893	0.1123	0.1769	-0.5378
4	1.46	0.0	0.1542	-0.1567	-0.0015	-0.0044	0.0057	0.2877	0.1125	0.1752	-1.0163
5	2.50	0.0	0.2520	-0.1124	-0.0109	-0.0063	0.0062	0.2548	0.1131	0.1717	-1.1945
6	3.50	0.0	0.3712	-0.4412	-0.0043	-0.0051	0.0049	0.2844	0.1125	0.1719	-1.3231
7	5.50	0.0	0.6273	-0.4612	-0.0009	-0.0055	0.0050	0.2877	0.1146	0.1730	-1.4080
8	9.40	0.0	1.0212	-2.0736	-0.0020	-0.0136	0.0053	0.3045	0.1301	0.1664	-1.6952
9	13.73	0.0	1.4631	-3.1325	0.0024	-0.0241	0.0077	0.3041	0.1556	0.1445	-1.7120
10	17.58	0.0	2.7350	-4.5410	0.0135	-0.0555	0.0084	0.2943	0.1756	0.1187	-1.6606
11	19.95	0.0	3.1534	-5.0124	0.0259	-0.0657	0.0097	0.2844	0.1628	0.1016	-1.6085
12	25.20	0.0	4.2902	-6.2076	0.0141	-0.0704	0.0069	0.2802	0.2123	0.0479	-1.4456
13	27.46	0.0	4.8243	-6.7130	-0.0078	-0.0800	0.0071	0.2431	0.2301	0.0040	-1.3021

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 2 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME=6 PMI CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
Z 69 U=60 2.5 0.0 M3=0.14 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CX1	CY1	CZ1	XCX1	YCX1	CX2	CY2	CZ2	XCX2	YCX2
1	-1.50	0.0	0.0047	0.0015	0.0	0.1573	0.0	-0.0540	-0.0003	-0.0142	0.0061	0.3553
2	-0.50	0.0	0.0047	0.0015	0.0055	0.1579	0.0070	-0.0167	-0.0004	-0.0049	0.0222	0.2922
3	0.43	0.0	0.0045	0.0006	0.0003	0.1274	0.0047	0.0170	-0.0002	0.0041	-0.0124	0.2445
4	1.46	0.0	0.0045	0.0013	-0.0005	0.1576	-0.0042	0.0528	-0.0006	0.0705	-0.0116	0.3899
5	2.50	0.0	0.0057	0.0005	-0.0003	0.0893	-0.0578	0.0951	-0.0001	0.0335	-0.0007	0.3525
6	3.50	0.0	0.0077	0.0010	-0.0002	0.1375	-0.0208	0.1347	0.0001	0.0510	0.0006	0.3677
7	5.52	0.0	0.0115	0.0017	0.0010	0.1742	0.1476	0.2350	0.0016	0.0047	0.0068	0.3603
8	9.60	0.0	0.0091	0.0027	0.0130	0.2412	1.4254	0.4369	0.0064	0.1413	0.0145	0.3220
9	13.73	0.0	0.0130	0.0032	0.0115	0.2452	0.2793	0.6516	0.0176	0.1796	-0.0273	0.2758
10	17.86	0.0	0.0115	0.0029	0.0139	0.2740	1.2066	0.6447	0.0302	0.2164	0.0350	0.2507
11	19.35	0.0	0.0115	0.0032	0.0122	0.2751	1.0603	0.6203	0.0359	0.2327	0.0390	0.2529
12	25.24	0.0	0.0154	0.0030	0.0042	0.1947	0.2660	1.0566	0.0500	0.2542	0.0473	0.2406
13	27.00	0.0	-0.0167	0.0008	0.0027	-0.0200	-0.1590	1.0978	0.0554	0.2549	0.0505	0.2350

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROJUSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RELOC-6 PM1 C/NF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION												
2	89 0.00 2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	FREE
POINT	ALPHA	META	C/F3	C/F3	C/F3	XCPF3	YCPF3	C/F4	C/F4	C/F4	XCPF4	YCPF4
1	-1.50	0.0	-0.0000	-0.0017	-0.0000	0.1486	0.0078	-0.0000	0.0007	-0.0022	-0.0100	0.0053
2	-0.50	0.0	-0.0000	-0.0010	-0.0010	0.1770	0.0003	-0.0172	0.0011	-0.0110	-0.0092	0.0032
3	0.00	0.0	-0.0000	-0.0011	-0.0010	0.1527	0.0031	0.0229	0.0010	0.0031	0.0020	0.0066
4	1.00	0.0	-0.0000	-0.0011	-0.0022	0.1300	0.0209	0.0560	0.0009	0.0198	0.0157	0.0342
5	2.50	0.0	-0.0100	-0.0010	-0.0010	0.1525	0.1525	0.0071	0.0010	0.0030	0.0098	0.0312
6	3.50	0.0	-0.0101	-0.0017	-0.0017	0.1715	0.1675	0.1300	0.0006	0.0042	0.0043	0.0330
7	5.50	0.0	-0.0100	-0.0017	-0.0020	0.1520	0.2103	0.2270	0.0010	0.0060	0.0045	0.0302
8	9.00	0.0	-0.0131	-0.0010	-0.0020	0.1700	0.1633	0.0242	0.0042	0.1499	0.0098	0.0330
9	13.73	0.0	-0.0101	-0.0025	-0.0021	0.1527	0.1320	0.0230	0.0113	0.1950	0.0101	0.0310
10	17.00	0.0	-0.0170	-0.0020	-0.0027	0.1149	0.1570	0.0027	0.0252	0.2347	0.0310	0.0290
11	19.95	0.0	-0.0151	-0.0025	-0.0010	0.1323	0.1000	0.0710	0.0303	0.2492	0.0347	0.0280
12	25.24	0.0	-0.0230	-0.0031	-0.0010	0.1357	0.0590	1.0009	0.0440	0.2738	0.0440	0.0273
13	27.00	0.0	-0.0251	-0.0020	-0.0010	0.1140	0.0550	1.0000	0.0500	0.2771	0.0440	0.0241

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 3

WARTI - MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME FILE NO											
PHI COME L DEL1 DEL2 DEL3 DEL4 TRANSITION											
7 70 0.05 2.0 0.0 H3-0F14 0.0 0 0 0 0 FREE											
POINT	ALPHA	BETA	CX	CLM	CY	CLN	CLL	CA	CAR	CAF	XCP
1	-1.61	0.0	-0.144	0.2145	-0.0001	-0.0216	0.0033	0.2940	0.1066	0.1874	-1.4891
2	-0.98	0.0	-0.044	0.1744	-0.0005	-0.0073	0.0031	0.2920	0.1055	0.1869	-1.8812
3	0.65	0.0	0.032	-0.0350	-0.0004	-0.0172	0.0040	0.2921	0.1089	0.1832	-0.6930
4	1.00	0.0	0.104	-0.1531	-0.0037	-0.0203	0.0033	0.2917	0.1074	0.1841	-1.0560
5	2.44	0.0	0.200	-0.3000	-0.0039	-0.0105	0.0031	0.2919	0.1107	0.1812	-1.2692
6	3.51	0.0	0.1707	-0.5205	-0.0033	-0.0225	0.0001	0.2922	0.1101	0.1821	-1.3867
7	5.50	0.0	0.007	-0.3727	-0.0004	-0.0100	0.0032	0.2940	0.1123	0.1817	-1.5491
8	9.01	0.0	1.23-7	-2.1504	-0.0001	-0.0175	0.0003	0.3121	0.1380	0.1741	-1.7387
9	13.70	0.0	1.57-7	-3.0001	0.0020	-0.0113	0.0007	0.3167	0.1613	0.1554	-1.7530
10	17.47	0.0	2.7150	-4.0500	0.0127	-0.0051	0.0067	0.3044	0.1759	0.1209	-1.6759
11	19.99	0.0	3.2110	-5.1075	0.0203	-0.0175	0.0081	0.2913	0.1777	0.1136	-1.6141
12	25.26	0.0	4.3750	-6.2370	0.0185	-0.0045	0.0079	0.2704	0.2177	0.0527	-1.6254
13	27.50	0.0	4.5000	-6.0000	0.0372	-0.0153	0.0070	0.2520	0.2461	0.0128	-1.3446



ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: RAIR-6												
2 70 U.S. 2.5												
M.I. CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION												
0.0 0.03 0.014 0.0 0 0 0 0 FREE												
POINT	ALPHA	BETA	C <sub>DF1</sub>	C <sub>D1</sub>	C <sub>D1</sub>	Y <sub>CPF1</sub>	Y <sub>CPF1</sub>	C <sub>DF2</sub>	C <sub>D2</sub>	C <sub>D2</sub>	Y <sub>CPF2</sub>	Y <sub>CPF2</sub>
1	-1.01	0.0	0.003	0.0113	0.0022	0.1572	0.2638	-0.0076	-0.0001	-0.0231	0.0027	0.0888
2	-0.58	0.0	0.0005	0.0012	0.0013	0.1355	1.5744	-0.0105	-0.0001	-0.0074	0.0008	0.7076
3	0.05	0.0	0.0045	0.0012	0.0002	0.1353	0.9576	0.0218	-0.0003	0.0331	-0.0151	0.1399
4	1.08	0.0	0.0145	0.0005	0.0016	0.0499	0.7674	0.0597	-0.0003	0.0179	-0.0052	0.3006
5	2.05	0.0	0.0007	0.0002	0.0018	0.0403	1.0509	0.1008	-0.0008	0.0327	-0.0003	0.3255
6	3.51	0.0	0.0074	0.0010	0.0051	0.1322	0.6421	0.1452	-0.0003	0.0002	-0.0018	0.3322
7	5.50	0.0	0.0002	0.0005	0.0007	0.1278	0.7516	0.2036	0.0008	0.0004	0.0014	0.3470
8	9.61	0.0	0.0005	0.0012	0.0007	0.2319	1.7450	0.4515	0.0006	0.1406	0.0106	0.3115
9	13.78	0.0	0.0005	0.0020	0.0102	0.3559	1.8185	0.6607	0.0152	0.1613	0.0227	0.2711
10	17.87	0.0	0.0074	0.0115	0.0105	0.2054	2.5163	0.8525	0.0702	0.2167	0.0308	0.2503
11	19.94	0.0	0.0110	0.0126	0.0100	0.2054	1.2998	0.9204	0.0309	0.2318	0.0335	0.2507
12	25.29	0.0	0.0124	0.0121	0.0075	0.1571	0.5048	1.0540	0.0454	0.2495	0.0431	0.2367
13	27.58	0.0	0.0108	0.0020	0.0212	0.1008	1.1536	1.0914	0.0503	0.2551	0.0461	0.2338

AR-OLD ENGINEERING DEVELOPMENT CENTER (AEC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: K11C-6 PHI CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION

2 TO 0.05 2.5 0.0 0.30010 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CNF3	CNF3	CNF3	XCPF3	YCPF3	CNF4	CNF4	CNF4	XCPF4	YCPF4
1	-1.51	0.0	-0.0101	-0.0023	-0.0132	0.2257	0.3149	-0.0679	0.0010	-0.0244	-0.0217	0.5093
2	-0.50	0.0	-0.0101	-0.0019	-0.0032	0.1557	0.3132	-0.0121	0.0012	-0.0111	-0.0971	0.9170
3	0.05	0.0	-0.0101	-0.0023	-0.0029	0.1552	0.2842	-0.0215	0.0010	0.0048	0.0445	0.2245
4	1.00	0.0	-0.0113	-0.0021	-0.0035	0.1851	0.3206	0.0568	0.0008	0.0202	0.0139	0.3556
5	2.49	0.0	-0.0124	-0.0025	-0.0032	0.1971	0.2558	0.0973	0.0005	0.0361	0.0049	0.3718
6	3.51	0.0	-0.0114	-0.0025	-0.0034	0.2154	0.2906	0.1401	-0.0000	0.0554	-0.0002	0.3954
7	5.50	0.0	-0.0115	-0.0024	-0.0032	0.1942	0.2076	0.2300	-0.0002	0.0904	-0.0007	0.3929
8	9.41	0.0	-0.0114	-0.0024	-0.0028	0.1759	0.1765	0.4323	0.0026	0.1517	0.0059	0.3509
9	13.70	0.0	-0.0117	-0.0034	-0.0032	0.1717	0.1606	0.6328	0.0084	0.1964	0.0133	0.3136
10	17.97	0.0	-0.0112	-0.0024	-0.0044	0.1732	0.2239	0.8052	0.0209	0.2367	0.0260	0.2964
11	19.39	0.0	-0.0223	-0.0032	-0.0030	0.1801	0.1365	0.8744	0.0257	0.2514	0.0294	0.2875
12	25.24	0.0	-0.0241	-0.0033	-0.0033	0.1370	0.1370	0.9956	0.0391	0.2742	0.0393	0.2755
13	27.50	0.0	-0.0277	-0.0034	-0.0034	0.1372	0.0669	1.0315	0.0436	0.2744	0.0423	0.2663

AR-OLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 3      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART NAME 2410-6      PMI      CUNE      1      DEL1      DEL2      DEL3      DEL4      TRANSITION											
2      71 0.00 2.5      0.0 M3=0F14      0.0      0      0      0      0      FREE											
POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAR	CAF	XCP
1	1.00	0.0	-0.1304	0.0113	-0.0051	-0.0272	0.0020	1.3226	0.1007	0.2219	-1.5242
2	0.50	0.0	-0.0374	0.0747	-0.0067	-0.0201	0.0021	0.3201	0.1051	0.2150	-1.9713
3	0.25	0.0	0.0514	-0.0303	-0.0050	-0.0177	0.0015	0.3191	0.1079	0.2113	-0.7043
4	1.00	0.0	0.1000	-0.1700	-0.0037	-0.0201	0.0018	0.3190	0.1077	0.2113	-1.1205
5	2.50	0.0	0.2050	-0.3300	-0.0030	-0.0220	0.0018	0.3160	0.1075	0.2113	-1.2750
6	3.51	0.0	0.3003	-0.5524	-0.0030	-0.0200	0.0017	0.3170	0.1090	0.2040	-1.4300
7	5.50	0.0	0.0017	-1.0563	-0.0023	-0.0105	0.0017	0.3167	0.1130	0.2053	-1.6270
8	9.00	0.0	1.3000	-2.3707	0.0017	-0.0101	0.0023	0.3039	0.1378	0.2061	-1.8302
9	13.75	0.0	2.0000	-3.7293	0.0019	-0.0107	0.0038	0.3305	0.1573	0.1822	-1.8245
10	17.01	0.0	2.0022	-4.0700	0.0113	-0.0377	0.0059	0.3309	0.1700	0.1559	-1.7107
11	20.03	0.0	3.3003	-5.0003	0.0157	-0.0600	0.0059	0.3182	0.1897	0.1205	-1.6303
12	25.41	0.0	4.0000	-6.2422	0.0220	-0.0537	0.0045	0.2900	0.2313	0.0636	-1.3552
13	27.73	0.0	5.1703	-6.4600	0.0030	-0.0120	0.0050	0.2603	0.2500	0.0105	-1.2302

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

NAVIER MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: HALL-6 PWT CORR L DEL1 DEL2 DEL3 DEL4 TRANSITION

2 71 0.92 2.5 0.0 03.0714 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	C.F1	CM1	CM2	XCMP1	YCP1	C.F2	CM2	C.F2	XCMP2	YCP2
1	-1.56	0.0	0.0000	0.0007	0.0002	0.1504	2.9057	0.0007	0.0002	0.0002	0.0002	0.5035
2	-0.98	0.0	0.0000	0.0007	0.0002	0.1504	2.9057	0.0007	0.0002	0.0002	0.0002	1.0094
3	0.03	0.0	0.0020	0.0002	0.0002	0.0002	1.5002	0.0025	0.0000	0.0023	0.0025	0.1010
4	1.47	0.0	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.2036
5	2.56	0.0	0.0003	0.0002	0.0001	0.0001	1.0035	0.0004	0.0001	0.0013	0.0001	0.2988
6	3.51	0.0	0.0001	0.0001	0.0003	0.0003	1.0250	0.0003	0.0001	0.0001	0.0001	0.3326
7	5.55	0.0	0.0000	0.0002	0.0003	0.0003	1.0035	0.0003	0.0001	0.0001	0.0001	0.3010
8	9.66	0.0	0.0000	0.0003	0.0002	0.0002	2.0020	0.0002	0.0001	0.0001	0.0001	0.3130
9	13.75	0.0	0.0000	0.0002	0.0002	0.0002	2.2519	0.0002	0.0001	0.0001	0.0001	0.2737
10	17.91	0.0	0.0001	0.0001	0.0001	0.0001	1.7239	0.0001	0.0001	0.0001	0.0001	0.2594
11	20.03	0.0	0.0001	0.0001	0.0001	0.0001	1.5300	0.0001	0.0001	0.0001	0.0001	0.2558
12	25.41	0.0	0.0001	0.0001	0.0001	0.0001	1.1036	0.0001	0.0001	0.0001	0.0001	0.2390
13	27.73	0.0	0.0001	0.0001	0.0001	0.0001	0.8750	0.0001	0.0001	0.0001	0.0001	0.2335

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

PARTIAL MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST MARI MACH REYNOLDS PMI CONF DEL1 DEL2 DEL3 DEL4 TRANSITION																							
2		71		0.42		2.5		0.0		0.340614		0.0		0		0		0		0		FREE	
POINT	ALPHA	BETA	CNF3	CNF4	CNF5	YCPF3	YCPF4	CNF6	CNF7	CNF8	YCPF6	YCPF7											
1	1.66	0.0	-0.0142	-0.0033	-0.0036	0.2561	0.2561	-0.0077	0.0011	-0.0260	-0.0227	0.5447											
2	0.55	0.0	-0.0110	-0.0027	-0.0039	0.2274	0.3271	-0.0102	0.0017	-0.0119	-0.1637	1.1726											
4	0.43	0.0	-0.0151	-0.0036	-0.0027	0.2234	0.1742	0.0231	0.0011	0.0037	0.0480	0.1588											
4	1.47	0.0	-0.0129	-0.0029	-0.0044	0.2218	0.3365	0.0597	0.0010	0.0189	0.0171	0.3167											
5	2.50	0.0	-0.0156	-0.0036	-0.0033	0.2322	0.2097	0.1014	0.0062	0.0368	0.0017	0.3638											
6	3.51	0.0	-0.0154	-0.0035	-0.0033	0.2326	0.2145	0.1457	-0.0009	0.0545	-0.0060	0.3877											
7	5.55	0.0	-0.0154	-0.0035	-0.0037	0.2054	0.2242	0.2364	-0.0024	0.0432	-0.0110	0.3903											
8	9.54	0.0	-0.0154	-0.0032	-0.0034	0.1714	0.2132	0.4523	-0.0036	0.1546	-0.0079	0.3529											
9	13.75	0.0	-0.0210	-0.0034	-0.0045	0.1618	0.2201	0.6556	-0.0005	0.2058	-0.0038	0.3119											
10	17.91	0.0	-0.0225	-0.0031	-0.0040	0.1369	0.1770	0.6272	0.0082	0.2461	0.0100	0.2999											
11	20.03	0.0	-0.0243	-0.0035	-0.0042	0.1453	0.1751	0.8934	0.0137	0.2614	0.0154	0.2926											
12	25.01	0.0	-0.0245	-0.0045	-0.0024	0.1558	0.0894	1.0076	0.0271	0.2609	0.0269	0.2787											
13	27.73	0.0	-0.0263	-0.0041	-0.0035	0.1463	0.1236	1.0526	0.0314	0.2826	0.0294	0.2684											

TEST PART NAME: MX11-00											
PWT CONF. 1 DEL1 DEL2 DEL3 DEL4 TRANSITION											
2	72	0.90	2.5	0.0	M30UF10	0.0	0	0	0	0	FREE
POINT	ALPHA	BETA	CX	CL4	CY	CLN	CLL	CA	CAR	CAF	ACP
1	-1.60	0.0	-0.1527	-0.2233	-0.0067	-0.0259	0.0010	0.0010	0.1297	0.2717	-1.6602
2	-7.58	0.0	-0.0000	0.0000	-0.0000	-0.0231	0.0009	0.0000	0.1324	0.2650	-2.0577
3	0.00	0.0	0.0000	0.0000	-0.0000	-0.0165	0.0003	0.0000	0.1327	0.2682	-0.7985
4	1.49	0.0	0.1730	-0.0220	-0.0011	-0.0226	0.0010	0.0000	0.1352	0.2661	-1.3211
5	2.49	0.0	0.2417	-0.0000	-0.0000	-0.0169	0.0009	0.0000	0.1397	0.2608	-1.6619
6	3.49	0.0	0.0090	-0.0000	-0.0000	-0.0137	0.0014	0.0000	0.1428	0.2535	-1.5496
7	5.53	0.0	0.0000	-0.0000	-0.0000	-0.0200	0.0007	0.0000	0.1410	0.2550	-1.6917
8	4.63	0.0	1.0000	-2.0000	-0.0017	-0.0125	0.0025	0.0000	0.1795	0.2371	-1.8014
9	13.76	0.0	2.0000	-3.0000	0.0000	-0.0210	0.0030	0.0000	0.1761	0.2629	-1.7597
10	17.97	0.0	2.0000	-3.0000	0.0012	-0.0194	0.0051	0.0000	0.2117	0.2200	-1.6587
11	20.13	0.0	3.0000	-4.0000	0.0000	-0.0252	0.0058	0.0000	0.2323	0.2005	-1.5455
12	25.59	0.0	4.0000	-5.0000	0.0015	-0.0070	0.0076	0.0000	0.3970	0.0900	-1.2230
13	28.01	0.0	5.0000	-6.0000	0.0020	-0.0100	0.0000	0.3700	0.3107	0.0633	-1.0663

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: MALU-6 PWT CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 72 0.00 2.5 0.0 53.0014 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CNF1	CNF1	CNF1	ACPF1	YCPF1	CNF2	CNF2	CNF2	ACPF2	YCPF2
1	-1.60	0.0	0.0017	0.0017	0.0017	0.2010	1.0765	-0.0532	0.0010	-0.0282	-0.0263	0.5299
2	-0.56	0.0	0.0000	0.0012	0.0001	0.2176	1.0277	-0.0143	-0.0002	-0.0103	0.0169	0.7212
3	0.00	0.0	0.0010	0.0013	0.0060	0.1812	1.2168	0.0251	-0.0012	0.0026	-0.0071	0.1035
4	1.49	0.0	0.0059	0.0011	0.0004	0.1858	0.4274	0.0069	-0.0025	0.0109	-0.0370	0.2023
5	2.44	0.0	0.0032	0.0005	0.0000	0.1542	1.1351	0.1135	-0.0032	0.0331	-0.0201	0.2912
6	3.44	0.0	0.0030	0.0000	0.0033	0.2005	0.8696	0.1593	-0.0000	0.0519	-0.0304	0.3256
7	5.53	0.0	0.0177	0.0015	0.0051	0.2010	0.6615	0.2069	-0.0056	0.0885	-0.0210	0.1330
8	9.63	0.0	0.0071	0.0013	0.0102	0.1610	1.4441	0.0095	-0.0051	0.1452	-0.0109	0.3094
9	13.76	0.0	0.0110	0.0021	0.0100	0.1883	1.4625	0.6793	-0.0001	0.1890	-0.0002	0.2782
10	17.97	0.0	0.0071	0.0013	0.0100	0.1817	2.3563	0.8661	0.0031	0.2302	0.0035	0.2658
11	22.13	0.0	0.0109	0.0015	0.0161	0.1176	1.2492	0.4015	0.0036	0.2092	0.0038	0.2667
12	25.59	0.0	0.0091	0.0016	0.0037	0.1752	0.4096	1.0745	0.0160	0.2666	0.0108	0.2481
13	28.01	0.0	-0.0015	0.0000	0.0102	-0.2742	-4.2163	1.1017	0.0206	0.2067	0.0223	0.2421

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWTF)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PARI. MACH. RAII-8 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 72 0.90 2.5 0.0 0340614 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CF3	CM3	CM3	XCPF3	YCPF3	CM4	CM4	CM4	XCPF4	YCPF4
1	-1.60	0.0	-0.0111	-0.0003	-0.0021	0.2375	0.1107	-0.0009	0.0032	-0.0205	-0.0040	0.0075
2	-0.50	0.0	-0.0179	-0.0037	-0.0023	0.2043	0.1130	-0.0041	0.0019	-0.0124	-0.0042	1.3698
3	0.00	0.0	-0.0177	-0.0030	-0.0024	0.2006	0.1086	-0.0032	0.0011	-0.0040	-0.0037	0.1293
4	1.00	0.0	-0.0187	-0.0034	-0.0024	0.1902	0.1539	0.0045	-0.0007	0.0218	-0.0095	0.3133
5	2.00	0.0	-0.0190	-0.0030	-0.0023	0.1802	0.1215	0.1136	-0.0016	0.0306	-0.0100	0.3398
6	3.00	0.0	-0.0200	-0.0042	-0.0014	0.2018	0.0873	0.1585	-0.0033	0.0583	-0.0210	0.3677
7	4.00	0.0	-0.0210	-0.0037	-0.0027	0.1773	0.1247	0.2551	-0.0050	0.0950	-0.0213	0.3730
8	5.00	0.0	-0.0220	-0.0037	-0.0033	0.1599	0.1407	0.4526	-0.0050	0.1508	-0.0133	0.3465
9	13.70	0.0	-0.0220	-0.0001	-0.0036	0.1525	0.1321	0.6516	-0.0006	0.2055	-0.0071	0.3153
10	17.97	0.0	-0.0220	-0.0030	-0.0032	0.1394	0.1239	0.8260	-0.0007	0.2490	-0.0008	0.3010
11	24.13	0.0	-0.0220	-0.0001	-0.0020	0.1583	0.0797	0.9010	-0.0000	0.2698	-0.0007	0.2994
12	25.59	0.0	-0.0221	-0.0000	-0.0030	0.1406	0.1065	1.0337	0.0006	0.2487	0.0004	0.2890
13	28.01	0.0	-0.0200	-0.0000	-0.0013	0.1502	0.0608	1.6595	0.0160	0.2933	0.0160	0.2769



ARLDD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 3

SHEET 1 OF 1

MANTIC MISSILE TAIL EFFECTS DATA

TEST PART NAME RAIL-6											
2 73 1.10 2.5 0.0 83°F 0.0 0 0 0 0 0 FREE											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-1.61	0.0	-0.164	-0.2351	-0.0162	0.0009	-0.0003	0.5636	0.2037	0.3661	-1.4450
2	-0.50	0.0	-0.0657	-0.0762	-0.0161	0.0001	0.0002	0.5692	0.2067	0.3625	-1.6299
3	0.23	0.0	0.0626	-0.0653	-0.0118	0.0002	-0.0002	0.5688	0.2104	0.3582	-1.2564
4	1.40	0.0	0.1476	-0.0722	-0.0116	0.0004	-0.0000	0.5662	0.2116	0.3544	-1.3342
5	2.51	0.0	0.2549	-0.0163	-0.0052	0.0075	0.0002	0.5638	0.2112	0.3575	-1.4290
6	3.51	0.0	0.3592	-0.0157	-0.0123	0.0124	0.0014	0.5623	0.2104	0.3515	-1.5050
7	5.50	0.0	0.5607	-0.0136	-0.0065	0.0076	-0.0009	0.5604	0.2101	0.3561	-1.6465
8	6.67	0.0	1.3237	-0.0207	-0.0163	0.0060	0.0007	0.5917	0.2433	0.3484	-1.6989
9	13.92	0.0	2.0274	-0.03073	-0.0153	-0.0232	0.0015	0.6002	0.2628	0.3374	-1.6209
10	18.10	0.0	2.4704	-0.02573	0.0064	-0.0204	0.0039	0.5955	0.2421	0.3333	-1.4312
11	20.28	0.0	3.5521	-0.03027	0.0060	-0.0031	0.0008	0.5714	0.2607	0.3067	-1.2674
12	25.95	0.0	5.1347	-0.05024	0.0294	-0.0057	0.0044	0.5250	0.2943	0.2337	-0.9119
13	28.40	0.0	5.3400	-0.0500	0.0302	-0.0105	0.0050	0.5075	0.3001	0.1984	-0.7444

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWTF)      AERODYNAMIC WIND TUNNEL (AWT)  
 PAGE 2 OF 3      NANTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART NAME: EXLW-6      PM1      CONF      1      DEL1      DEL2      DEL3      DEL4      TRANSITION  
 2      73 1.16 2.5      0.0 63W0F16      0.0      0      0      0      0      FREE

POINT	ALPHA	BETA	CNF1	CM1	CM1	YCPF1	YCPF1	CNF2	CM2	CBP	XCPF2	YCPF2
1	-1.41	0.0	0.0002	0.0010	0.0004	0.3133	1.2261	-0.0531	0.0020	-0.0287	-0.0172	0.5410
2	-0.48	0.0	0.0035	0.0012	0.0115	0.3351	3.2437	-0.0151	0.0003	-0.0124	-0.0206	0.4532
3	0.43	0.0	0.0028	0.0010	0.0059	0.0052	2.2491	0.0231	-0.0007	-0.0002	-0.0305	-0.0288
4	1.40	0.0	0.0028	0.0010	0.0021	0.0070	0.0078	0.0026	-0.0026	0.0175	-0.0411	0.2793
5	2.51	0.0	0.0009	0.0008	0.0019	0.0013	2.1209	0.1080	-0.0032	0.0318	-0.0294	0.2074
6	3.51	0.0	0.0016	0.0004	0.0020	0.0077	1.5742	0.1541	-0.0043	0.0491	-0.0276	0.3180
7	5.50	0.0	0.0123	0.0007	0.0007	0.2452	0.2863	0.2547	-0.0064	0.0865	-0.0260	0.3329
8	9.67	0.0	0.0050	0.0007	0.0153	0.1276	2.8659	0.0016	-0.0064	0.1424	-0.0192	0.3084
9	13.02	0.0	0.0047	0.0012	0.0156	0.1250	1.6057	0.0592	-0.0069	0.1847	-0.0105	0.2801
10	18.10	0.0	0.0105	0.0065	0.0157	0.0513	1.4895	0.6204	-0.0059	0.2216	-0.0072	0.2700
11	20.20	0.0	0.0125	0.0009	0.0179	0.0041	1.4343	0.2750	-0.0095	0.2368	-0.0109	0.2707
12	25.95	0.0	0.0094	0.0003	0.0004	0.0263	0.0462	0.4945	-0.0101	0.2591	-0.0102	0.2605
13	26.60	0.0	0.0151	0.0001	0.0201	0.0143	1.3307	1.0167	-0.0152	0.2666	-0.0149	0.2620

AROLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME				PHI	CONE	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
2 73 1.14 2.5				0.0	030014	0.0	0	0	0	0	FREE	
POINT	ALPHA	BETA	CNF3	CNF3	CNF3	YCPF3	CNF4	CNF4	CNF4	YCPF4	YCPF4	
1	-1.01	0.0	-0.0145	-0.0032	-0.0033	0.1774	0.1707	-0.0054	0.0038	-0.0275	-0.0028	0.0068
2	-0.58	0.0	-0.0140	-0.0031	-0.0043	0.1811	0.2237	-0.0061	0.0025	-0.0128	-0.0050	1.5744
3	0.03	0.0	-0.0130	-0.0032	-0.0032	0.1806	0.1811	0.0306	0.0011	0.0035	-0.0073	0.1134
4	1.46	0.0	-0.0207	-0.0032	-0.0036	0.1527	0.1715	0.0692	-0.0002	0.0197	-0.0029	0.2844
5	2.51	0.0	-0.0215	-0.0034	-0.0043	0.1526	0.1512	0.1103	-0.0018	0.0388	-0.0167	0.3516
6	3.51	0.0	-0.0214	-0.0035	-0.0034	0.1502	0.1705	0.1546	-0.0028	0.0565	-0.0181	0.3651
7	5.54	0.0	-0.0223	-0.0036	-0.0037	0.1525	0.1641	0.2502	-0.0060	0.0942	-0.0241	0.3766
8	9.47	0.0	-0.0250	-0.0036	-0.0041	0.1338	0.1616	0.4407	-0.0090	0.1538	-0.0204	0.3498
9	13.32	0.0	-0.0277	-0.0036	-0.0031	0.1582	0.1124	0.6342	-0.0084	0.2007	-0.0133	0.3145
10	19.16	0.0	-0.0292	-0.0041	-0.0036	0.1418	0.1157	0.7650	-0.0086	0.2412	-0.0110	0.3072
11	20.24	0.0	-0.0315	-0.0046	-0.0032	0.1526	0.0997	0.8433	-0.0131	0.2583	-0.0155	0.3063
12	25.45	0.0	-0.0317	-0.0050	-0.0024	0.1578	0.0761	0.9551	-0.0156	0.2438	-0.0163	0.2971
13	29.00	0.0	-0.0300	-0.0052	-0.0000	0.1526	0.0012	0.9689	-0.0208	0.2671	-0.0215	0.2963

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART -CLM RELUM-0 PWT CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
2 74 1.20 2.5 0.0 0.30014 0.0 0 0 0 0 FREE

POINT	ALPHA	META	CV	CLW	CY	CLN	CLL	CA	CAN	CAF	XCP
1	-1.62	0.0	-0.1310	0.0033	-0.0032	0.0043	-0.0007	0.5305	0.1790	0.3505	-0.7093
2	-0.54	0.0	-0.0304	0.0100	-0.0193	0.0047	-0.0004	0.5373	0.1758	0.3614	-0.3045
3	0.45	0.0	0.0700	-0.0163	-0.0221	0.0700	-0.0004	0.5360	0.1822	0.3544	-1.8875
4	1.65	0.0	0.1763	-0.0234	-0.0171	0.0848	-0.0004	0.5363	0.1856	0.3507	-1.4698
5	2.50	0.0	0.2434	-0.0205	-0.0163	0.0836	-0.0000	0.5344	0.1874	0.3475	-1.4313
6	3.52	0.0	0.4137	-0.0304	-0.0163	0.0721	-0.0011	0.5334	0.1800	0.3458	-1.4281
7	4.56	0.0	0.6445	-0.0207	-0.0162	0.0713	-0.0013	0.5425	0.1473	0.3452	-1.4949
8	9.72	0.0	1.3150	-0.0434	-0.0032	0.0475	-0.0020	0.5640	0.2126	0.3512	-1.5003
9	13.84	0.0	2.0740	-0.0304	-0.0038	0.0311	-0.0009	0.5660	0.2230	0.3439	-1.4260
10	18.24	0.0	3.0424	-0.0572	0.0163	0.0044	0.0007	0.5662	0.2332	0.3329	-1.1750
11	20.44	0.0	3.6301	-0.0706	0.0204	-0.0037	0.0010	0.5555	0.2424	0.3131	-1.0056
12	24.24	0.0	5.2044	-0.0801	0.0497	-0.0060	0.0045	0.5227	0.2697	0.2530	-0.6821
13	28.67	0.0	6.0034	-0.0320	0.0602	-0.0401	0.0005	0.5100	0.2753	0.2392	-0.5624

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AWT)

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MARTIN MISSILE TAIL EFFECTS DATA

SMERT 1 OF 1

TEST PART		MACH		CONF		DEL1		DEL2		DEL3		DEL4		TRANSITION	
2		74	1.20	2.5	0.0	0.30	0.14	0.0	0	0	0	0	0	FREE	
POINT	ALPHA	5F14	CONF1	CONF1	CONF1	CONF1	CONF1	CONF1	CONF1	CONF1	CONF1	CONF1	CONF1	CONF1	CONF1
1	-1.62	0.0	-0.0033	0.0010	0.0020	-0.0001	-0.7837	-0.0005	-0.0001	-0.0028	0.0006	0.5977			
2	-0.54	0.0	-0.0031	0.0010	0.0020	-0.0001	-1.6460	-0.0111	-0.0011	-0.0126	0.1008	1.1359			
3	0.45	0.0	-0.0042	0.0012	0.0015	-0.0001	-0.2706	-0.3776	0.0259	-0.0033	0.0005	-0.1291	0.0186		
4	1.45	0.0	-0.0034	0.0011	0.0010	-0.0001	-0.2801	-0.3776	0.0035	-0.0047	0.0149	-0.0739	0.2347		
5	2.50	0.0	-0.0035	0.0011	0.0013	-0.0001	-0.2707	-0.3793	0.1006	-0.0055	0.0258	-0.0516	0.2805		
6	3.52	0.0	-0.0047	0.0012	0.0016	-0.0001	-0.2704	-0.3780	0.1491	-0.0066	0.0459	-0.0432	0.3077		
7	5.50	0.0	-0.0040	0.0012	0.0015	-0.0001	-0.2704	-0.3797	0.2066	-0.0060	0.0791	-0.0325	0.3209		
8	9.72	0.0	-0.0039	0.0015	0.0015	-0.0001	-0.3004	-2.2316	0.0343	-0.0101	0.1365	-0.0232	0.3005		
9	13.04	0.0	-0.0024	0.0015	0.0014	-0.0001	-0.8170	-3.1617	0.0144	-0.0108	0.1715	-0.0176	0.2791		
10	16.24	0.0	-0.0040	0.0015	0.0012	-0.0001	-0.2779	-3.4906	0.7579	-0.0040	0.2039	-0.0125	0.2692		
11	20.48	0.0	-0.0014	0.0015	0.0007	-0.0001	-0.7173	-4.5550	0.8695	-0.0111	0.2172	-0.0137	0.2683		
12	26.24	0.0	0.0051	0.0011	0.0002	0.0178	1.6277	0.9059	-0.0100	0.2436	-0.0203	0.2689			
13	28.07	0.0	0.0235	0.0022	0.0015	0.0007	0.9128	0.9274	-0.0227	0.2482	-0.0205	0.2675			

TEST PART NAME P111-6						PRI	CONF	L	DEL1	DEL2	DEL3	DELA	TRANSITION
P	74	1.2L	2.5	0.0	M3WUF14	0.0		0	0	0	0	FREE	
POINT	ALPHA	BETA	CMF3	CM3	CM3	ACMF3	YCPF3	CMF4	CM4	CB4	XCPF4	YCPF4	
1	-1.52	0.0	-0.0218	-0.0227	-0.0150	0.1234	0.2314	-0.0359	0.0005	-0.0232	-0.0193	0.5901	
2	-0.54	0.0	-0.0217	-0.0229	-0.0060	0.1314	0.2227	-0.0067	0.0005	-0.0092	-0.1074	2.1933	
3	0.45	0.0	-0.0201	-0.0225	-0.0002	0.1224	0.3065	-0.0333	-0.0010	0.0075	-0.0312	0.2237	
4	1.45	0.0	-0.0211	-0.0026	-0.0050	0.1233	0.2751	0.0694	-0.0025	0.0219	-0.0354	0.3152	
5	2.50	0.0	-0.0224	-0.0020	-0.0065	0.1251	0.2054	0.1093	-0.0030	0.0392	-0.0346	0.3587	
6	3.52	0.0	-0.0227	-0.0035	-0.0057	0.1325	0.2294	0.1504	-0.0046	0.0561	-0.0300	0.3730	
7	5.52	0.0	-0.0229	-0.0031	-0.0055	0.1270	0.2294	0.2412	-0.0074	0.0904	-0.0407	0.3747	
8	4.7c	0.0	-0.0251	-0.0034	-0.0051	0.1340	0.2038	0.4221	-0.0103	0.1469	-0.0243	0.3681	
9	13.84	0.0	-0.0251	-0.0034	-0.0051	0.1525	0.2014	0.5982	-0.0123	0.1910	-0.0206	0.3193	
10	14.24	0.0	-0.0263	-0.0042	-0.0039	0.1525	0.1482	0.7350	-0.0139	0.2767	-0.0108	0.3112	
11	20.48	0.0	-0.0275	-0.0045	-0.0041	0.1438	0.1452	0.7491	-0.0142	0.2417	-0.0180	0.3064	
12	26.24	0.0	-0.0252	-0.0040	-0.0010	0.1444	0.0338	0.4864	-0.0106	0.2690	-0.0210	0.3035	
13	25.57	0.0	-0.0273	-0.0051	-0.0002	0.1464	-0.0070	0.4057	-0.0202	0.2726	-0.0223	0.3009	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: PWT-25    PWT    CONF    L    VEL1    VEL2    DEL1    DEL2    DEL3    DEL4    TRANSITION  
 2    75 1.30 2.5    0.0 0.30 0.14    0.0    0    0    0    0    FREE

POINT	ALPHA	BETA	CN	CL	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-1.61	0.0	-0.1747	-0.1038	0.0362	-0.1313	-0.0029	0.5101	0.1801	0.3300	-1.7492
2	-0.55	0.0	-0.0471	0.1454	0.0432	-0.1240	-0.0027	0.5054	0.1816	0.3273	-2.7649
3	0.45	0.0	0.0411	0.0728	0.0303	-0.1341	-0.0019	0.5077	0.1832	0.3245	-1.7692
4	1.50	0.0	0.1631	-0.0342	0.0360	-0.1147	-0.0031	0.5031	0.1810	0.3221	-0.2738
5	2.52	0.0	0.2624	-0.1442	0.0377	-0.1239	-0.0030	0.5029	0.1804	0.3225	-0.6154
6	3.55	0.0	0.3427	-0.3074	0.0414	-0.1247	-0.0033	0.5008	0.1800	0.3207	-0.8475
7	4.59	0.0	0.4132	-0.4703	0.0402	-0.1146	-0.0030	0.5134	0.1824	0.3313	-1.0928
8	5.76	0.0	1.2275	-1.4564	0.0455	-0.1234	-0.0016	0.5357	0.2078	0.3279	-1.1917
9	13.96	0.0	1.5738	-2.2413	0.0317	-0.0511	-0.0032	0.5367	0.2219	0.3146	-1.1361
10	18.36	0.0	3.0073	-2.7773	0.0176	0.0443	-0.0014	0.5353	0.2294	0.3059	-0.9251
11	20.54	0.0	3.6050	-2.8310	0.0214	0.0667	-0.0054	0.5284	0.2381	0.2903	-0.7853
12	24.36	0.0	5.3544	-3.6153	0.0127	0.1323	-0.0123	0.5297	0.2734	0.2564	-0.5616
13	28.76	0.0	6.1717	-3.4645	0.0049	0.1047	-0.0112	0.5369	0.2890	0.2489	-0.5458

TEST PART NAME: R10-0 P1: 10NF L: DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 74 1.30 2.0 0.0 0.30 0.10 0.0 0 0 0 0 FREE

POINT	ALPHA	META	CNF1	CNF1	CNF1	XCPF1	YCPF1	C/F2	CH2	CR2	XCPF2	YCPF2
1	-1.61	0.0	0.0152	0.0152	0.0134	0.0119	0.0130	-0.0531	0.0024	-0.0334	-0.0443	0.4301
2	-0.55	0.0	0.0145	0.0145	0.0141	0.0256	0.9716	-0.0191	0.0004	-0.0166	-0.0465	0.9170
3	0.45	0.0	0.0120	0.0120	0.0130	0.0130	0.5492	0.0161	0.0003	-0.0073	0.0187	-0.4521
4	1.50	0.0	0.0110	0.0110	0.0097	0.0126	0.5423	0.0514	-0.0015	0.0072	-0.0203	0.1403
5	2.52	0.0	0.0115	0.0115	0.0096	0.0137	0.5360	0.0699	-0.0021	0.0191	-0.0229	0.2130
6	3.55	0.0	0.0101	0.0101	0.0075	0.0145	0.7455	0.1305	-0.0032	0.0358	-0.0247	0.2742
7	5.54	0.0	0.0121	0.0121	0.0101	0.0125	0.7464	0.2203	-0.0056	0.0680	-0.0250	0.3123
8	9.76	0.0	0.0110	0.0110	0.0101	0.0123	1.2566	0.3917	-0.0070	0.1131	-0.0179	0.2687
9	13.40	0.0	0.0071	0.0071	0.0151	0.0151	2.1064	0.5420	-0.0007	0.1443	-0.0086	0.2663
10	18.36	0.0	-0.0177	-0.0177	0.0052	0.0120	-0.7947	0.6742	-0.0001	0.1745	-0.0120	0.2607
11	20.59	0.0	-0.0145	-0.0145	0.0019	0.0146	-0.1018	0.7305	-0.0090	0.1964	-0.0123	0.2612
12	24.38	0.0	-0.0402	-0.0402	-0.0095	-0.0027	0.2433	0.8069	-0.0177	0.2147	-0.0219	0.2660
13	28.70	0.0	-0.0245	-0.0245	-0.0015	-0.0170	0.0617	0.8600	-0.0227	0.2350	-0.0262	0.2723



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWTF)      AERODYNAMIC WIND TUNNEL (ATF)  
 PAGE 3 OF 3      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART NAME: M104-A												
REF. CONF. L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2	75	1.30	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	FREE
POINT	ALPHA	MFA	CNF3	CN3	CN3	YCPF3	YCPF3	CNF4	CN4	CN4	YCPF4	YCPF4
1	-1.51	0.0	-0.0077	-0.0034	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
2	-0.55	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
3	0.45	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
4	1.50	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
5	2.52	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
6	3.55	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
7	5.55	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
8	9.76	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
9	13.96	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
10	18.36	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
11	20.54	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
12	26.38	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000
13	28.76	0.0	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000	-0.0000	0.0000	0.0000

AERODYNAMIC WIND TUNNEL TESTS

MARTIN MISSILE TAIL EFFECTS DATA

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POINT	ALPHA	BETA	CN	CLN	CV	CLM	CLL	CA	CAR	CAF	ACP
1	-1.70	0.0	-0.114	-0.117	-0.0287	-0.0546	-0.0011	0.2841	0.1361	0.1489	-1.0369
2	-2.45	0.0	-0.0171	-0.0257	-0.0044	-0.0516	-0.0003	0.2745	0.1331	0.1514	-1.5003
3	0.35	0.0	0.0535	-0.0261	-0.0285	0.0713	-0.0021	0.2840	0.1330	0.1510	-0.5257
4	1.38	0.0	0.1402	-0.1197	-0.0262	0.0684	-0.0010	0.2825	0.1303	0.1521	-0.0538
5	2.38	0.0	0.2340	-0.0333	-0.0263	0.0713	-0.0027	0.2863	0.1334	0.1529	-1.0095
6	3.44	0.0	0.3124	-0.0376	-0.0002	0.1703	-0.0022	0.2880	0.1361	0.1518	-1.1309
7	5.47	0.0	0.5251	-0.0184	-0.0253	0.0741	-0.0010	0.2948	0.1441	0.1506	-1.1726
8	7.66	0.0	0.937	-1.0001	-0.0252	0.0747	0.0024	0.3315	0.1763	0.1552	-1.0789
9	13.74	0.0	1.3715	-1.1584	-0.0268	0.0973	0.0022	0.3526	0.2143	0.1343	-0.0458
10	17.96	0.0	1.675	-1.1941	-0.0124	0.0971	-0.0013	0.3574	0.2787	0.0787	>0.5362
11	20.61	0.0	2.1635	-1.1175	-0.0352	0.0718	-1.0026	0.3591	0.3043	0.0508	-0.5213
12	24.44	0.0	2.914	-0.5609	-0.0013	0.0942	0.0052	0.3974	0.4080	-0.0107	-0.2208
13	27.76	0.0	3.3499	-0.7574	-0.0336	0.0922	0.0098	0.3471	0.306	-0.0435	-0.2262

AR-OLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 2 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RX10=6 PHI CULF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2	80	0.60	2.5	0.0	H3=0F21	0.5	0	0	0	0	0	FREE
POINT	ALPHA	BETA	CNF1	CNI	CHI	ICNF1	YCPF1	CNF2	CM2	CB2	ICPF2	YCPF2
1	-1.70	0.0	-0.0156	-0.0152	0.0215	0.5296	-1.3293	-0.0566	-0.0237	-0.0315	0.0055	0.5376
2	-0.65	0.0	-0.0070	-0.0020	-0.0131	0.7667	1.4467	-0.0066	-0.0020	-0.0054	0.3077	0.8188
3	0.34	0.0	-0.0057	-0.0021	0.0013	0.3611	-0.0577	0.1456	0.0151	0.0135	0.3313	0.2969
4	1.38	0.0	-0.0040	-0.0020	0.0049	0.2889	-0.9472	0.1965	0.0347	0.0407	0.3253	0.3821
5	2.38	0.0	-0.0073	-0.0066	-0.0009	0.6266	0.1266	0.1602	0.0532	0.0669	0.2952	0.3715
6	3.64	0.0	-0.0057	-0.0021	0.0017	0.3411	-1.3399	0.2629	0.0777	0.0931	0.2957	0.3541
7	5.67	0.0	-0.0073	-0.0066	0.0025	0.6263	-0.3766	0.3663	0.0952	0.1699	0.2556	0.3859
8	9.60	0.0	0.0	0.0	0.0	0.0	0.0	0.5426	0.1016	0.2300	0.1744	0.3949
9	13.74	0.0	-0.0013	-0.0005	-0.0246	0.1426	0.2936	0.6617	0.0780	0.2560	0.1145	0.3785
10	17.96	0.0	-0.0213	-0.0057	-0.0047	0.2552	0.2229	0.7559	0.0735	0.2651	0.0972	0.3772
11	20.07	0.0	-0.0216	-0.0066	-0.0143	0.3267	0.6462	0.7796	0.0707	0.3054	0.0907	0.3918
12	25.44	0.0	-0.0705	-0.0066	-0.0069	0.3291	0.3382	0.7605	0.0626	0.3055	0.0825	0.4018
13	27.76	0.0	-0.0066	-0.0055	0.0225	0.4476	-1.5256	0.6207	0.0626	0.3276	0.0768	0.3994

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

WANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: PWT-2.5 PWT-2.5 L DEL1 DEL2 DEL3 DEL4 TRANSITION  
3 NO 2.5 2.5 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CNF3	CN3	CB3	XCPF3	YCPF3	CNF4	CM4	CB4	XCPF4	YCPF4
1	-1.74	0.0	-0.0224	-0.0125	-0.0000	0.6000	0.6298	-0.0810	-0.0276	-0.0003	0.3003	0.6074
2	-0.65	0.0	-0.0212	-0.0124	-0.0107	0.6003	0.6057	-0.0319	-0.0033	-0.0061	0.1039	0.1926
3	0.30	0.0	-0.0173	-0.0078	-0.0110	0.6258	0.6062	-0.0155	0.0106	0.0069	0.6061	0.4433
4	1.35	0.0	-0.0250	-0.0110	-0.0105	0.5350	0.5073	0.0741	0.0312	0.0316	0.4215	0.4272
5	2.38	0.0	-0.0240	-0.0105	-0.0112	0.6536	0.6650	0.1374	0.0514	0.0589	0.3741	0.4263
6	3.44	0.0	-0.0216	-0.0114	-0.0123	0.5157	0.5834	0.2102	0.0679	0.0931	0.3232	0.4431
7	5.47	0.0	-0.0247	-0.0105	-0.0143	0.5572	0.3657	0.3434	0.0965	0.1472	0.2411	0.4244
8	9.60	0.0	-0.0333	-0.0209	-0.0104	0.5719	0.2751	0.5389	0.0962	0.2431	0.1784	0.4511
9	13.78	0.0	-0.0344	-0.0132	-0.0146	0.3834	0.4254	0.6361	0.0735	0.2667	0.1155	0.4161
10	17.96	0.0	-0.0427	-0.0245	-0.0095	0.5734	0.2218	0.7364	0.0437	0.3011	0.1137	0.4089
11	26.07	0.0	-0.0445	-0.0241	-0.0085	0.4966	0.2117	0.7531	0.0787	0.3172	0.1065	0.4212
12	25.44	0.0	-0.0445	-0.0237	-0.0045	0.5041	0.0964	0.7637	0.0775	0.3199	0.1015	0.4189
13	27.70	0.0	-0.0444	-0.0212	-0.0031	0.4714	0.0696	0.6299	0.0821	0.3396	0.0990	0.4091

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC) PRODUCTION WIND TUNNEL FACILITY (PWT) AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 3  
 SHEET 1 OF 1

TEST PART NAME: PWT-0-0											
2 A1 U.S. 2.5 0.0 8340F21 0.0 0 0 0 0 0 FREE											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAR	CAF	KCP
1	-1.70	0.0	-0.1135	0.0455	-0.0275	0.0057	-0.0026	0.2960	0.1393	0.1547	-0.8231
2	-0.67	0.0	-0.0275	0.0374	-0.0067	0.0049	-0.0031	0.2927	0.1345	0.1577	-1.3588
3	0.36	0.0	0.0050	-0.0062	-0.0250	0.0071	-0.0022	0.2935	0.1326	0.1609	-0.1355
4	1.38	0.0	0.1344	-0.1200	-0.0053	0.0067	-0.0017	0.2927	0.1335	0.1592	-0.8891
5	2.40	0.0	0.2243	-0.2500	-0.0256	0.0072	-0.0041	0.2932	0.1345	0.1587	-1.0606
6	3.44	0.0	0.3411	-0.4033	-0.0230	0.0059	-0.0059	0.2963	0.1374	0.1588	-1.1822
7	5.46	0.0	0.5214	-0.6134	-0.0271	0.0033	-0.0034	0.3043	0.1456	0.1587	-1.1760
8	9.54	0.0	0.8244	-1.0050	-0.0293	0.0037	0.0012	0.3469	0.1740	0.1721	-1.0813
9	13.72	0.0	1.3553	-1.2565	-0.0273	0.0056	0.0017	0.3618	0.2243	0.1375	-0.8998
10	17.97	0.0	1.9202	-1.3130	-0.0144	0.0015	-0.0008	0.3743	0.2801	0.0942	-0.6827
11	20.14	0.0	2.2025	-1.2150	-0.0143	0.0013	-0.0016	0.3708	0.3251	0.0507	-0.5537
12	25.57	0.0	3.0154	-0.8462	0.0244	0.0003	0.0038	0.4068	0.4068	0.0260	-0.2203
13	27.40	0.0	3.6942	-0.7012	0.0146	0.0009	0.0013	0.4112	0.4323	0.0207	-0.2021

TEST PART PALM SKIN-6 H-1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION

7 01 6.05 2.5 0.0 03-0F21 0.0 0 0 0 0 FREE

POINT	ALPHA	ETA	CNF1	CN1	CN1	XCFF1	YCPF1	C.F2	CN2	C82	XCFF2	YCPF2
1	-1.70	0.0	-0.0115	-0.0175	-0.015	0.5288	-1.4475	-0.0506	-0.0225	-0.0465	0.4442	0.8016
2	-0.67	0.0	-0.0075	-0.0035	-0.0235	0.4458	2.9455	-0.0033	-0.0024	-0.0123	0.8306	3.6846
3	0.36	0.0	-0.0023	-0.0015	-0.0115	0.6296	6.9125	0.0063	0.0189	0.0061	0.3824	0.0828
4	1.38	0.0	-0.0055	-0.0024	0.0073	0.3505	-1.3363	0.1113	0.0376	0.0302	0.3375	0.2712
5	2.80	0.0	-0.0015	-0.0028	-0.015	1.6749	12.6842	0.1852	0.0591	0.0563	0.3191	0.3169
6	3.44	0.0	-0.0015	-0.0068	0.0045	0.5923	-1.0017	0.2667	0.0794	0.0844	0.3018	0.3188
7	5.46	0.0	-0.0015	-0.0085	0.0032	0.5037	-0.3786	0.3543	0.1073	0.1633	0.2791	0.3729
8	9.54	0.0	-0.001	-0.0055	0.0043	0.4456	-1.5235	0.5817	0.1074	0.2196	0.1947	0.3775
9	13.76	0.0	-0.0015	-0.0064	0.0044	0.6227	0.2707	0.6953	0.0773	0.2568	0.1112	0.3691
10	17.97	0.0	-0.0214	-0.0115	-0.0167	0.4573	0.6456	0.7994	0.0777	0.2936	0.0972	0.3673
11	20.18	0.0	-0.0244	-0.0127	-0.0222	0.5160	0.8920	0.8044	0.0667	0.3108	0.0830	0.3866
12	25.57	0.0	-0.0017	0.0014	-0.0011	-1.1167	0.6670	0.7478	0.0651	0.3160	0.0816	0.3960
13	27.86	0.0	-0.0248	-0.0055	0.0042	0.2643	-0.2068	0.6633	0.0623	0.3423	0.0722	0.3967

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 3 OF 3

SHEET 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME RAIG-6												
PWT		CONF		1		DEL1	DEL2	DEL3	DEL4	TRANSITION		
2	01 0.00 2.0	0.0	03 0.021	0.0	0	0	0	0	0	FREE		
POINT	ALPHA	BETA	CNF3	CM3	CM3	YCPF3	YCPF3	CNF4	CM4	CB4	XCPF4	YCPF4
1	-1.76	0.0	-0.0241	-0.0171	-0.0120	0.7341	0.5436	-0.0803	-0.0323	-0.0417	0.6020	0.5190
2	-0.67	0.0	-0.0244	-0.0160	-0.0114	0.6647	0.4757	-0.0512	-0.0065	-0.0042	0.2080	0.2938
3	0.30	0.0	-0.0214	-0.0120	-0.0150	0.6047	0.7176	0.0187	-0.0045	0.0051	0.5080	0.2730
4	1.30	0.0	-0.0271	-0.0180	-0.0126	0.6643	0.4673	0.0402	0.0353	0.0268	0.4399	0.3591
5	2.00	0.0	-0.0254	-0.0200	-0.0120	0.7125	0.6147	0.1366	0.0533	0.0592	0.3863	0.4269
6	3.44	0.0	-0.0244	-0.0100	-0.0137	0.6701	0.5565	0.2145	0.0742	0.0899	0.3457	0.4191
7	5.44	0.0	-0.0244	-0.0147	-0.0133	0.6562	0.4450	0.3400	0.1052	0.1461	0.3096	0.4289
8	9.59	0.0	-0.0414	-0.0223	-0.0141	0.5340	0.3414	0.5344	0.1035	0.2349	0.1937	0.4395
9	13.70	0.0	-0.0426	-0.0211	-0.0141	0.5030	0.3368	0.6569	0.0731	0.2740	0.1113	0.4171
10	17.97	0.0	-0.0441	-0.0254	-0.0134	0.5756	0.3035	0.7627	0.0429	0.3116	0.1087	0.4086
11	20.14	0.0	-0.0452	-0.0240	-0.0093	0.5438	0.2057	0.7862	0.0765	0.3305	0.0975	0.4215
12	25.57	0.0	-0.0444	-0.0243	-0.0043	0.6045	0.0880	0.7905	0.0825	0.3214	0.1044	0.4066
13	27.84	0.0	-0.0444	-0.0253	-0.0053	0.5057	0.1135	0.6505	0.0779	0.3510	0.0916	0.4127

TEST PART NAME RX17-6 PWT CONE 1 DEL1 DEL2 DEL3 DEL4 TRANSITION

2 R2 V.92 2.5 0.0 0.300 21 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CX	CL*	CY	CLN	CLL	CA	CAR	CAF	XCP
1	-1.74	0.0	-0.1046	0.0731	-0.0267	0.0076	-0.0003	0.3274	0.1342	0.1453	-0.4991
2	-0.59	0.0	-0.0327	0.0417	-0.0234	0.0044	-0.0031	0.3255	0.1366	0.1469	-1.2745
3	0.36	0.0	0.0454	0.0805	-0.0218	0.0504	-0.0021	0.3240	0.1342	0.1498	0.0120
4	1.37	0.0	0.1247	-0.0725	-0.0247	0.0704	-0.0005	0.3237	0.1355	0.1482	-0.5630
5	2.40	0.0	0.2146	-0.2154	-0.0205	0.0649	-0.0052	0.3249	0.1363	0.1467	-0.9541
6	3.43	0.0	0.3344	-0.3924	-0.0145	0.0444	-0.0054	0.3284	0.1391	0.1493	-1.1570
7	4.44	0.0	0.4217	-0.5577	-0.0147	0.0302	-0.0051	0.3464	0.1565	0.1499	-1.1455
8	5.62	0.0	0.4761	-1.0032	-0.0300	0.1044	0.0011	0.4984	0.2071	0.1913	-1.0717
9	13.31	0.0	1.4441	-1.3444	-0.0323	0.1359	0.0003	0.4094	0.2444	0.1600	-0.9601
10	19.03	0.0	2.0224	-1.5061	-0.0196	0.1170	-0.0060	0.4792	0.3345	0.0947	-0.7447
11	20.17	0.0	2.3144	-1.3344	0.0012	0.0723	-0.0029	0.4249	0.3892	0.0358	-0.6050
12	25.47	0.0	3.0374	-0.6475	0.0040	0.0348	-0.0017	0.4644	0.4118	0.0527	-0.2154
13	23.06	0.0	3.7543	-0.0247	0.0041	0.1219	-0.0042	0.4535	0.4358	0.0177	-0.1170



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

ARTIC MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST RAPI WALK RAIL-B				PHI	CUNF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
2 R2 0.92 2.5				0.0	0.30621	0.0	0	0	0	0	FREE	
POINT	ALPHA	BETA	CMF1	CM1	CM1	XCFF1	YCPF1	CMF2	CM2	CM2	XCFF2	YCPF2
1	-1.74	0.0	-0.0394	-0.0111	-0.0130	0.3433	-0.3783	-0.1384	-0.0320	-0.0375	0.8249	0.9672
2	-0.59	0.0	-0.0190	-0.0043	-0.0044	0.2444	-0.4803	-0.0250	-0.0050	-0.0156	1.1048	3.0989
3	0.36	0.0	-0.0127	-0.0052	-0.0064	0.0070	-0.3741	0.0401	0.0236	-0.0013	0.5045	-0.0320
4	1.37	0.0	-0.0192	-0.0093	-0.0023	0.4434	-0.1180	0.0879	0.0476	0.0207	0.5413	0.2354
5	2.45	0.0	-0.0054	-0.0005	-0.0003	0.0630	0.0373	0.1747	0.0711	0.0489	0.3968	0.2722
6	3.43	0.0	-0.0044	-0.0007	0.0119	0.9259	-1.2626	0.2641	0.0924	0.0747	0.3514	0.3018
7	5.44	0.0	-0.0070	-0.0012	0.0063	1.3624	-0.8027	0.3845	0.1215	0.1374	0.3160	0.3575
8	7.42	0.0	-0.0042	-0.0008	-0.0050	1.6227	1.2006	0.5716	0.1282	0.2147	0.2242	0.3755
9	13.41	0.0	-0.0170	-0.0121	-0.0070	0.7114	0.4143	0.7442	0.0798	0.2723	0.1072	0.3668
10	14.63	0.0	-0.0350	-0.0103	-0.0104	0.4647	0.3074	0.4407	0.0749	0.3271	0.0856	0.3714
11	20.17	0.0	-0.0311	-0.0120	-0.0234	0.3353	0.7721	0.0407	0.0662	0.3354	0.0751	0.3888
12	25.67	0.0	-0.0252	-0.0031	0.0061	0.1224	-0.2439	0.4866	0.0432	0.3412	0.0713	0.3848
13	28.00	0.0	-0.0524	-0.0174	-0.0073	0.3031	0.1402	0.4620	0.0543	0.3679	0.0630	0.3905



ARMY ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION AND TUNNEL FACILITY (PMT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST FAIR NAME RAIL-5 PM1 CUNE 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 03 0.90 2.5 0.0 03-0F21 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAN	CAF	KCP
1	-1.70	0.0	-0.1433	0.2527	-0.0213	0.6531	-0.0050	0.4089	0.1610	0.2471	-1.7633
2	-0.07	0.0	-0.0413	0.0405	-0.0100	0.0450	-0.0003	0.4245	0.1542	0.2703	-2.3019
3	0.37	0.0	0.0545	-0.0500	-0.0171	0.0301	-0.0079	0.4210	0.1604	0.2574	-0.9919
4	1.30	0.0	0.1546	-0.2133	-0.0170	0.0300	-0.0000	0.4181	0.1656	0.2525	-1.3362
5	2.02	0.0	0.2731	-0.2110	-0.0169	0.0400	-0.0007	0.4122	0.1717	0.2406	-1.5065
6	3.42	0.0	0.3413	-0.5455	-0.0160	0.0409	-0.0072	0.4097	0.1704	0.2393	-1.5629
7	5.09	0.0	0.6416	-0.5460	-0.0132	0.0410	-0.0077	0.4234	0.1600	0.2398	-1.5741
8	9.65	0.0	1.0200	-1.2510	-0.0230	0.0405	-0.0052	0.4744	0.2340	0.2404	-1.2560
9	13.52	0.0	1.4470	-1.4367	-0.0306	0.1310	-0.0004	0.4973	0.3399	0.1575	-0.9500
10	18.04	0.0	2.1001	-1.4554	-0.0364	0.1505	-0.0114	0.5065	0.4550	0.0507	-0.7716
11	20.20	0.0	2.5600	-1.5071	-0.0301	0.1500	-0.0105	0.5133	0.4556	0.0576	-0.6432
12	25.96	0.0	3.6500	-0.7204	0.0160	0.0509	0.0000	0.5048	0.4998	0.0050	-0.1902
13	28.37	0.0	4.2000	-0.1300	0.0120	0.0555	0.0000	0.5050	0.4905	0.0109	-0.0325

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 2 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH #114-6-- CM1 CMF L LEL1 DEL2 DEL3 DEL4 TRANSITION

2 H3 0.90 2.05 0.0 H3-0P21 0.0 0 0 0 0 FREE

POINT	ALPHA	delta	CM1	CMF	CM1	ACPF1	YCPF1	CMF2	CM2	CB2	XCPF2	YCPF2
1	-1.70	0.0	-0.0204	-0.0074	0.0225	0.3415	-1.0945	-0.0470	-0.0214	-0.0004	0.2244	0.6225
2	-0.67	0.0	-0.0174	-0.0074	-0.0174	0.1637	1.0103	-0.0121	-0.0004	-0.0218	0.0659	1.7496
3	0.37	0.0	-0.0110	0.0012	0.0092	-0.1049	-0.3783	0.0763	0.0235	0.0059	0.3082	0.0768
4	1.38	0.0	-0.0140	-0.0054	0.0036	0.3949	-0.1941	0.1394	0.0376	0.0391	0.2690	0.2797
5	2.42	0.0	-0.0140	-0.0046	-0.0069	0.2544	0.4341	0.2339	0.0589	0.0756	0.2520	0.3233
6	3.42	0.0	-0.0170	-0.0042	0.0123	0.2143	-0.4258	0.3280	0.0790	0.1029	0.2408	0.3138
7	5.44	0.0	-0.0141	-0.0059	0.0164	0.3244	-0.3784	0.5003	0.0933	0.1766	0.1865	0.3530
8	9.85	0.0	-0.0144	-0.0003	0.0107	0.9136	-0.5416	0.6932	0.1748	0.2469	0.1944	0.3850
9	13.42	0.0	-0.0350	-0.0057	-0.0074	0.1639	0.2233	0.0144	0.0951	0.3133	0.1161	0.3824
10	18.09	0.0	-0.0442	-0.0049	-0.0127	0.2053	0.2623	0.9642	0.0721	0.3743	0.0729	0.3784
11	20.26	0.0	-0.0444	-0.0042	-0.0140	0.1842	0.2453	1.0652	0.0569	0.4120	0.0628	0.3868
12	25.44	0.0	-0.0271	-0.0044	0.0103	0.1270	-0.3783	1.0767	0.0532	0.4728	0.0494	0.3927
13	26.47	0.0	-0.0344	-0.0062	0.0083	0.1637	0.2194	1.0950	0.0584	0.4235	0.0538	0.3868

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 3 OF 3

SHEET 1 OF 1

PART 1, MISSILE TAIL EFFECTS DATA

TEST PART NAME: R10-5													
CONF: 1													
DEL1 DEL2 DEL3 DEL4 TRANSITION													
2 A3 0.90 2.5 0.0 03.0421 0.0 0 0 0 0 FREE													
POINT	ALPHA	BETA	CFF3	CM3	CM3	KCPF3	YCPF3	CNF4	CM4	C94	KCPF4	YCPF4	
1	-1.70	0.0	-0.0235	-0.0154	-0.0157	0.0057	0.0097	-0.1216	-0.0247	-0.0665	0.2031	0.5300	
2	-0.47	0.0	-0.0074	-0.0024	-0.0126	0.0197	0.0721	-0.0308	0.0027	-0.0708	-0.0522	0.0094	
3	0.37	0.0	-0.0227	-0.0153	-0.0157	0.0057	0.0097	-0.0200	-0.0180	-0.0035	-0.7534	0.1447	
4	1.30	0.0	-0.0243	-0.0233	-0.0132	0.7457	0.4442	0.0949	0.0411	0.0357	0.4109	0.3560	
5	2.02	0.0	-0.0301	-0.0252	-0.0113	0.0372	0.3760	0.1422	0.0597	0.0734	0.3107	0.3822	
6	3.42	0.0	-0.0258	-0.0115	-0.0144	0.7145	0.5624	0.2791	0.0755	0.1108	0.2707	0.3968	
7	5.04	0.0	-0.0330	-0.0022	-0.0114	0.6926	0.3544	0.0013	0.0503	0.1630	0.2047	0.4147	
8	9.45	0.0	-0.0341	-0.0030	-0.0131	0.6095	0.3422	0.0418	0.1247	0.2618	0.2005	0.4391	
9	13.62	0.0	-0.0344	-0.0112	-0.0123	0.4735	0.3067	0.7660	0.1018	0.3194	0.1329	0.4178	
10	18.04	0.0	-0.0440	-0.0245	-0.0141	0.5415	0.1869	0.9509	0.0409	0.3432	0.0914	0.4030	
11	20.28	0.0	-0.0547	-0.0325	-0.0079	0.5845	0.1275	-1.0101	-0.0750	0.4209	-0.0743	0.4167	
12	25.49	0.0	-0.0422	-0.0330	-0.0030	0.6309	0.0573	1.0669	0.0639	0.4372	0.0599	0.4097	
13	28.37	0.0	-0.0305	-0.0321	-0.0040	0.6308	0.0395	1.2776	0.0671	0.4348	0.0622	0.4035	

ARL-OLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION AND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 3

PART 1 MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST FACTORIAL MATRIX											
POINT	ALPHA	META	CA	CLM	CY	CLW	CLL	CA	CAB	CAF	KCP
1	-1.71	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
2	-0.68	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
3	0.37	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
4	1.38	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
5	2.38	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
6	3.43	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
7	4.51	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
8	5.51	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
9	6.55	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
10	7.51	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
11	8.25	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
12	9.55	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788
13	10.25	0.0	-0.1401	0.0001	-0.0335	0.1020	-0.0102	0.5718	0.2067	0.3651	-1.5788

ARSDU ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

PART IV MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART WACH NALU=0													
2		M 1.06 2.5		PMI COEF		L		DEL1 DEL2 DEL3 DEL4				TRANSITION	
				0.0 030UF21		0.0		0 0 0 0				FREE	
POINT	ALPHA	BETA	CPX1	CP1	CP1	XCPF1	YCPF1	CX2	CY2	Co2	XCPF2	YCPF2	
1	-1.71	0.0	-0.0230	-0.0111	0.0089	0.0077	-0.3788	-0.0931	-0.0228	-0.0067	0.2601	0.5018	
2	-0.72	0.0	-0.0200	0.0122	-0.0133	-0.1052	0.4447	-0.0073	-0.0040	-0.0052	0.5504	0.7101	
3	0.37	0.0	-0.0127	0.0030	0.0010	-0.1038	-0.0550	-0.0791	0.0179	0.0199	0.2260	0.2518	
4	1.38	0.0	-0.0230	0.0017	-0.0017	-0.0741	0.0734	0.1627	0.0324	0.0560	0.1949	0.3441	
5	2.38	0.0	-0.0100	0.0120	-0.0023	-0.1463	0.1267	0.2602	0.0457	0.0853	0.1756	0.3278	
6	3.43	0.0	-0.0120	0.0003	0.0000	-0.2144	-0.1450	0.3502	0.0557	0.1237	0.1590	0.3534	
7	5.51	0.0	-0.0110	-0.0007	-0.0026	-0.3328	0.1149	0.5256	0.0664	0.1882	0.1319	0.3578	
8	9.55	0.0	-0.0140	0.0043	-0.0093	-0.2146	0.4779	0.4437	0.0868	0.3134	0.1029	0.3715	
9	13.91	0.0	-0.0330	-0.0060	-0.0115	0.0256	0.3622	0.9405	0.1029	0.3777	0.1095	0.4016	
10	18.25	0.0	-0.0404	-0.0010	-0.0114	0.0303	0.2432	1.0013	0.0464	0.4161	0.0614	0.3848	
11	23.55	0.0	-0.0275	0.0024	-0.0152	-0.1056	0.5535	1.1496	0.0593	0.4498	0.0516	0.3897	
12	28.78	0.0	-0.0257	0.0005	0.0004	-0.0157	-0.0214	1.2890	0.0588	0.4946	0.0456	0.3876	
13	34.74	0.0	-0.0575	-0.0128	-0.0226	0.0445	0.3934	1.3264	0.0537	0.5195	0.0404	0.3915	

ARNOLD ENGINEERING DEVELOPMENT CENTER(ARDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 3 OF 3

NAWT-1 MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: RAIL-6 PHI - CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 RA 1.16 2.5 C.0 03.0F21 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CMF3	CM3	CM3	KCPF3	YCPF3	CMF4	CM4	CM4	KCPF4	YCPF4
1	-1.71	0.0	-0.0001	-0.0001	-0.0101	0.6000	0.2000	-0.1200	-0.0010	-0.0720	0.0010	0.5000
2	-0.00	0.0	-0.0001	-0.0001	-0.0104	0.6303	0.2350	-0.0404	0.0152	-0.0294	-0.3724	0.7205
3	0.37	0.0	-0.0023	-0.0032	-0.0113	0.5000	0.2074	0.0009	0.0280	-0.0035	-0.6430	-0.0781
4	1.70	0.0	-0.0070	-0.0200	-0.0000	0.0000	0.1337	0.1220	0.0020	0.0305	0.3074	0.2003
5	2.30	0.0	-0.0070	-0.0300	-0.0007	0.6305	0.0005	0.1013	0.0300	0.0021	0.2008	0.3020
6	3.03	0.0	-0.0007	-0.0200	-0.0000	0.6302	0.1305	0.2000	0.0510	0.1005	0.1700	0.3710
7	5.51	0.0	-0.0000	-0.0000	-0.0000	0.6000	0.1516	0.0705	0.0000	0.1033	0.1001	0.3000
8	4.05	0.0	-0.0000	-0.0000	-0.0000	0.6300	0.1057	0.7773	0.0010	0.3100	0.1002	0.0000
9	11.91	0.0	-0.0000	-0.0230	-0.0070	0.5223	0.1710	0.0000	0.0000	0.3000	0.1110	0.0000
10	14.25	0.0	-0.0000	-0.0200	-0.0000	0.5101	0.1750	1.0000	0.0010	0.0730	0.0700	0.0110
11	20.55	0.0	-0.0000	-0.0200	-0.0070	0.0013	0.1270	1.0000	0.0000	0.0000	0.0000	0.0000
12	20.20	0.0	-0.0000	-0.0035	-0.0000	0.0000	0.1000	1.2357	0.0000	0.5103	0.0000	0.0130
13	20.70	0.0	-0.0000	-0.0035	-0.0000	0.0000	0.0070	1.2755	0.0000	0.5205	0.0000	0.0127



AR-OLD ENGINEERING DEVELOPMENT CENTER (AEC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MANTIS MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: R110-6				PWT	CUMF	L	DEL1	DEL2	DEL3	DELA	TRANSITION
2	05	1.20	2.05	0.0	0.3071	21	0.0	0	0	0	FREE
POINT	ALPHA	BETA	CA	CLM	CV	CLN	CLL	CA	CM	CAF	KCP
1	-1.71	0.0	-0.1202	-0.1252	-0.0266	-0.1111	-0.0129	0.5333	0.1739	0.3590	-0.9720
2	-0.00	0.0	-0.1002	-0.1315	-0.0020	-0.0725	-0.0117	0.5327	0.1742	0.3525	1.5776
3	0.35	0.0	0.0000	-0.1007	-0.0000	0.0000	-0.0107	0.5331	0.1737	0.3590	-2.2100
4	1.30	0.0	0.1000	-0.1305	-0.0000	0.0000	-0.0102	0.5315	0.1770	0.3544	-1.7917
5	2.30	0.0	0.2000	-0.1000	-0.0000	0.0000	-0.0112	0.5295	0.1799	0.3607	-1.6250
6	3.03	0.0	0.3000	-0.1000	-0.0000	0.1000	-0.0110	0.5299	0.1817	0.3603	-1.5409
7	5.56	0.0	0.4000	-0.1000	-0.0000	0.0000	-0.0110	0.5332	0.1807	0.3500	-1.3791
8	0.71	0.0	1.0000	-1.0000	-0.0100	0.0000	-0.0133	0.5000	0.2075	0.3591	-1.1421
9	13.95	0.0	1.0000	-1.3700	-0.0250	0.1300	-0.0150	0.5575	0.2132	0.3603	-0.8309
10	15.41	0.0	2.3300	-0.0100	-0.0300	0.1000	-0.0160	0.5723	0.2400	0.3255	-0.3500
11	20.70	0.0	2.0000	-0.0000	-0.0000	0.1500	-0.0123	0.5000	0.2550	0.3111	-0.2075
12	26.60	0.0	0.0000	0.0000	-0.0000	0.1000	-0.0100	0.5570	0.2700	0.2775	0.0000
13	29.10	0.1	5.1711	0.3000	-0.0100	0.1000	-0.0130	0.5507	0.2802	0.2615	0.0752

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MAINTENANCE MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME		PRIME	CM1	CUMF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION		
2	85 1.2V 2.5	0.0	0.030F2)	0.0	0	0	0	0	0	FREE		
POINT	ALPHA	BETA	CMF1	CM1	CM1	YCPF1	YCPF1	CMF2	CM2	C52	XCPF2	YCPF2
1	-1.71	0.0	-0.0142	0.0013	0.0115	-0.00646	-0.0052	-0.0765	-0.0160	-0.0067	0.1833	0.5040
2	-0.48	0.0	-0.0147	0.0064	-0.0132	-0.04342	0.0905	0.0080	0.0014	-0.0061	0.1777	-1.0130
3	0.35	0.0	-0.0121	0.0064	-0.0028	-0.05476	0.2169	0.0972	0.0196	-0.0188	0.2037	0.1931
4	1.36	0.0	-0.0174	0.0033	-0.0077	-0.01436	0.4303	0.1746	0.0281	0.0527	0.1611	0.3010
5	2.34	0.0	-0.0146	0.0061	-0.0031	-0.02147	0.1666	0.2574	0.0356	0.0835	0.1392	0.3244
6	3.43	0.0	-0.0148	0.0075	-0.0030	-0.0046	0.1616	0.3422	0.0460	0.1144	0.1344	0.3343
7	5.40	0.0	-0.0214	0.0064	-0.0034	-0.0043	0.1417	0.4452	0.0515	0.1744	0.1041	0.3602
8	9.71	0.0	-0.0255	0.0044	-0.0035	-0.0044	0.1347	0.7966	0.0675	0.2946	0.0044	0.3698
9	13.45	0.0	-0.0244	-0.0052	-0.0034	-0.0047	0.4320	1.0114	0.0803	0.3925	0.0793	0.3880
10	14.41	0.0	-0.0041	-0.0024	-0.0312	0.0340	0.4465	1.0551	0.0725	0.4090	0.0667	0.3877
11	20.74	0.0	-0.0424	0.0034	-0.0217	-0.0047	0.5136	1.1326	0.0860	0.4443	0.0583	0.3923
12	26.60	0.0	-0.0444	0.0014	-0.0221	-0.0042	0.3461	1.2430	0.0557	0.5070	0.0434	0.3952
13	29.16	0.0	-0.0744	-0.0044	-0.0301	0.0556	0.4032	1.3366	0.0524	0.5311	0.0393	0.3880

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 3 OF 3

NANTIA MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME R110-6 M=1 C/N=1 L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 F5 1.20 2.5 0.0 03=0F21 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CX3	CY3	CZ3	XCX3	XCX3	CY4	CZ4	CX4	CY4	XCX4	XCX4
1	-1.71	0.0	-0.0360	-0.0232	-0.0000	0.0000	0.1579	-0.1131	0.0008	-0.0670	-0.0070	0.5928	
2	-0.64	0.0	-0.0345	-0.0247	-0.0056	0.0412	0.1462	-0.0343	0.0186	-0.0771	-0.5430	0.7918	
3	0.35	0.0	-0.0330	-0.0212	-0.0071	0.0097	0.2037	0.0532	0.0215	-0.0087	0.4046	0.1648	
4	1.36	0.0	-0.0432	-0.0232	-0.0036	0.0790	0.0902	0.1284	0.0195	0.0331	0.1516	0.2580	
5	2.34	0.0	-0.0420	-0.0244	-0.0044	0.0504	0.1059	0.2159	0.0330	0.0577	0.1526	0.2678	
6	3.43	0.0	-0.0374	-0.0240	-0.0007	0.0047	0.1005	0.2919	0.0408	0.1055	0.1398	0.3613	
7	5.50	0.0	-0.0414	-0.0244	-0.0024	0.0094	0.0588	0.4538	0.0656	0.1547	0.1445	0.3418	
8	9.71	0.0	-0.0374	-0.0213	-0.0051	0.0472	0.1566	0.7378	0.0607	0.2479	0.0823	0.3902	
9	13.95	0.0	-0.0325	-0.0210	-0.0067	0.0616	0.2052	0.4492	0.0727	0.3960	0.0766	0.4172	
10	18.41	0.0	-0.0374	-0.0304	-0.0017	0.0456	0.0461	1.0047	0.0415	0.4160	0.0808	0.4124	
11	20.74	0.0	-0.0343	-0.0242	0.0018	0.7366	-0.0374	1.0983	0.0677	0.4563	0.0621	0.4203	
12	24.46	0.0	-0.0354	-0.0327	0.0032	0.4734	-0.0405	1.2387	0.0412	0.5153	0.0494	0.4170	
13	25.11	0.0	-0.0264	-0.0242	0.0051	0.4045	-0.1765	1.2491	0.0582	0.5418	0.0452	0.4203	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 1 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MANTIN RD-6											
PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
2 RA 1.30 2.5 4.0 03.0F21 0.0 0 0 0 0 FREE											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAR	CAF	XCP
1	-1.71	0.0	-0.1137	0.1854	0.0166	-0.0557	-0.0121	0.5069	0.1667	0.3382	-1.3380
2	-0.68	0.0	-0.1431	0.0967	0.0171	-0.0510	-0.0117	0.5045	0.1679	0.3365	-2.1589
3	0.35	0.0	0.1454	0.0544	0.0160	-0.0524	-0.0108	0.5063	0.1676	0.3365	0.1020
4	1.40	0.0	0.1459	-0.1000	0.0144	-0.0552	-0.0105	0.5051	0.1724	0.3327	-0.6806
5	2.43	0.0	0.2513	-0.1496	0.0167	-0.0674	-0.0113	0.5051	0.1766	0.3265	-0.7950
6	3.47	0.0	0.3671	-0.2867	0.0151	-0.0599	-0.0115	0.5043	0.1782	0.3260	-0.8259
7	5.55	0.0	0.5000	-0.4354	0.0104	-0.0368	-0.0104	0.5231	0.1863	0.3368	-0.7994
8	9.75	0.0	1.0201	-0.7274	0.0014	0.0009	-0.0073	0.5492	0.2068	0.3424	-0.7895
9	16.07	0.0	1.5308	-0.5617	-0.0036	0.0306	-0.0092	0.5513	0.2218	0.3295	-0.5284
10	18.55	0.0	2.5327	-0.7152	-0.0026	0.0469	-0.0115	0.5666	0.2345	0.3121	-0.2824
11	20.00	0.0	3.6402	-0.8252	-0.0020	0.0927	0.0008	0.5525	0.2464	0.3061	-0.1380
12	26.80	0.0	4.0320	-0.8976	-0.0037	0.2150	-0.0159	0.5596	0.2797	0.2799	-0.0616
13	29.31	0.0	5.6316	-0.9150	-0.0144	0.2300	-0.0155	0.5757	0.2963	0.2794	-0.0737

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST CASE MATH. RAIL-A													
2		EA 1.30 2.5		PM1 CMEF		L		DEL1 DEL2 DEL3 DEL4				TRANSITION	
				0.0 0.300F21		0.0		0 0 0 0				FREE	
POINT	ALPHA	BETA	CDF1	CM1	CM2	YCPF1	YCPF2	CMF2	CM2	C02	KCPF2	YCPF2	
1	-1.71	0.0	0.0002	0.0001	0.0023	1.0825	2.9173	-0.0801	-0.0098	-0.0500	0.1229	0.6268	
2	-0.68	0.0	0.0043	0.0057	0.0021	0.8292	0.2771	-0.0054	0.0017	-0.0211	-0.3221	3.9167	
3	2.35	0.0	0.0100	0.0101	0.0005	0.7113	0.3155	0.0065	0.0125	0.0020	0.1943	0.0378	
4	1.00	0.0	0.0047	0.0043	0.0005	0.8400	1.9160	0.1300	0.0709	0.0329	0.1533	0.2400	
5	2.63	0.0	0.0020	0.0035	0.0005	1.0215	0.2100	0.2100	0.0231	0.0670	0.1065	0.3110	
6	3.67	0.0	0.0007	0.0073	0.0077	3.3007	3.4568	0.2949	0.0353	0.0907	0.1198	0.3074	
7	5.55	0.0	0.0055	0.0061	0.0021	1.1109	0.3702	0.4300	0.0372	0.1510	0.0856	0.3673	
8	4.75	0.0	-0.0047	0.0007	0.0075	-1.7753	-1.5263	0.7043	0.0509	0.2556	0.0723	0.3629	
9	10.07	0.0	-0.0170	0.0100	0.0005	-0.5671	0.2565	0.9201	-0.0567	0.3591	0.0013	0.3800	
10	18.55	0.0	-0.0100	0.0153	-0.0119	-0.9220	0.7103	1.1035	0.0701	0.4360	0.0672	0.3958	
11	20.86	0.0	-0.0003	0.0051	-0.0201	-0.1215	0.6173	1.1983	0.0622	0.4345	0.0567	0.3956	
12	24.00	0.0	-0.0730	0.0085	-0.0275	-0.1145	0.3773	1.7975	0.0463	0.5210	0.0357	0.4020	
13	24.31	0.0	-0.1023	0.0050	-0.0305	-0.0503	0.3763	1.3635	0.0400	0.5500	0.0320	0.4040	

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	POINT	MA	1.30	2.5	PHI	CONE	L	DEL1	DEL2	DEL3	DELA	TRANSITION
	2	MA	1.30	2.5	0.0	03-0021	0.0	0	0	0	0	FREE
POINT	ALPHA	META	CMF3	CM3	CM3	YCPF3	YCPF3	CMF4	CM4	CM4	XCPF4	YCPF4
1	-1.71	0.0	-0.0111	-0.0207	0.0043	1.3126	-0.2245	-0.1167	0.0019	-0.0074	-0.0160	0.5770
2	-0.48	0.0	-0.0205	-0.0305	0.0066	1.4577	-0.3108	-0.0667	0.0106	-0.0279	-0.2179	0.5739
3	0.35	0.0	-0.0111	-0.0217	0.0055	1.5200	-0.3021	0.0301	0.0153	-0.0058	0.5081	-0.1934
4	1.46	0.0	-0.0111	-0.0267	0.0055	1.4401	-0.3024	0.1123	0.0290	0.0243	0.2504	0.2341
5	2.43	0.0	-0.0211	-0.0267	0.0052	1.3513	-0.2449	0.1840	0.0339	0.0574	0.1840	0.3117
6	4.47	0.0	-0.0111	-0.0257	0.0041	1.7670	-0.2823	0.2657	0.0374	0.0830	0.1425	0.3155
7	5.55	0.1	-0.0207	-0.0207	0.0037	1.3544	-0.1750	0.3476	0.0401	0.1430	0.1004	0.3617
8	5.75	0.0	-0.0344	-0.0330	-0.0044	1.0129	0.0114	0.4667	0.0522	0.2641	0.0702	0.3962
9	14.07	0.0	-0.0379	-0.0270	-0.0047	0.6938	0.1194	0.6816	0.0624	0.3666	0.0708	0.4182
10	14.55	0.0	-0.0417	-0.0331	-0.0042	0.8177	0.1023	1.0490	0.0797	0.4503	0.0760	0.4293
11	29.46	0.0	-0.0379	-0.0335	0.0001	0.4956	-0.0029	1.1059	0.0819	0.4676	0.0741	0.4489
12	26.00	0.0	-0.0400	-0.0330	-0.0002	0.6457	0.0050	1.2404	0.0522	0.5412	0.0421	0.4363
13	29.31	0.0	-0.0400	-0.0330	0.0015	0.6217	-0.0339	1.3341	0.0496	0.5609	0.0381	0.4370

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 3

MANTI. MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME RK1000 PHI CUSE L DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 91 0.00 2.5 0.0 M3.0F36 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CN	CL4	CV	CL4	CLL	CA	CAR	CAF	KCP
1	-1.01	0.0	-0.1000	-0.0500	0.0051	-0.0050	-0.0025	0.3107	0.1135	0.2002	-0.5103
2	-0.30	0.0	-0.0000	-0.0011	0.0002	-0.0002	-0.0022	0.3102	0.1104	0.2030	11.2001
3	0.63	0.0	-0.0001	-0.0070	0.0003	-0.0005	-0.0030	0.3129	0.1107	0.2032	-1.6003
4	1.00	0.0	0.0021	-0.0003	0.0001	-0.0000	-0.0030	0.3102	0.1153	0.2029	-1.4312
5	2.00	0.0	0.0307	-0.0000	0.0113	-0.0017	-0.0000	0.3100	0.1150	0.2010	-1.4120
6	3.00	0.0	0.0037	-0.0107	0.0000	-0.0003	-0.0000	0.3159	0.1157	0.2003	-1.4790
7	5.00	0.0	0.0000	-0.0001	0.0113	-0.0000	-0.0030	0.3100	0.1230	0.1900	-1.5023
8	4.71	0.0	1.0000	-0.0003	0.0150	-0.0017	-0.0000	0.3300	0.1500	0.1801	-1.7001
9	13.70	0.0	2.0000	-0.0001	0.0000	-0.0000	-0.0000	0.3500	0.1901	0.1500	-1.7737
10	17.07	0.0	3.5000	-0.0002	0.0000	-0.0000	-0.0000	0.3600	0.2200	0.1300	-1.7000
11	19.00	0.0	0.1310	-0.0000	0.0000	-0.0000	-0.0000	0.3737	0.2600	0.1057	-1.7551
12	25.03	0.0	5.0521	-0.0100	0.1337	-0.0000	0.0000	0.3330	0.3002	0.0200	-1.7200
13	27.01	0.0	0.0000	-0.0000	0.1511	-0.0000	-0.0000	0.2870	0.2001	0.0000	-1.7002

ARMED ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION AND TUNNEL FACILITY(PRT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME REL. Wt		PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION			
2 91 U. to 2.5		0.0	03.0F30	0.0	0	0	0	0	FREE			
POINT	ALPHA	BETA	CMF1	CM1	CB1	KCPF1	YCPF1	CAF2	CMF	CB2	KCPF2	YCPF2
1	-1.91	0.0	0.0033	0.0001	-0.0010	0.0252	-0.2615	-0.0225	0.0001	-0.0004	-0.0033	0.3608
2	-0.36	0.0	0.0033	0.0001	-0.0010	0.0252	-0.1436	-0.0033	-0.0002	-0.0011	0.0767	0.3436
3	0.53	0.0	0.0033	0.0001	-0.0010	0.0252	-0.6109	-0.0166	-0.0006	0.0055	-0.0367	0.3283
4	1.66	0.0	0.0033	0.0001	-0.0010	0.0252	-0.8447	0.0361	-0.0010	0.0146	-0.0263	0.3032
5	2.66	0.0	0.0033	0.0001	-0.0010	0.0252	-0.6616	0.0642	-0.0013	0.0226	-0.0209	0.3529
6	3.66	0.0	0.0037	0.0001	-0.0005	0.0383	-0.1284	0.0925	-0.0070	0.0337	-0.0212	0.3649
7	5.66	0.0	0.0022	0.0001	-0.0003	0.0562	-0.1527	0.1577	-0.0015	0.0515	-0.0095	0.3262
8	9.71	0.0	0.0016	0.0002	-0.0001	0.1053	-0.0938	0.3024	0.0016	0.0837	0.0053	0.2762
9	13.78	0.0	0.0052	-0.0001	-0.0029	-0.0136	-0.5543	0.4430	0.0058	0.1101	0.0133	0.2499
10	17.97	0.0	0.0096	0.0014	-0.0034	0.1470	-0.3740	0.5666	0.0124	0.1330	0.0219	0.2347
11	19.90	0.0	0.0159	0.0025	-0.0050	0.1550	-0.3779	0.6178	0.0160	0.1606	0.0265	0.2275
12	25.03	0.0	0.0376	0.0032	-0.0046	0.3252	-0.6260	0.7376	0.0252	0.1570	0.0341	0.2129
13	27.21	0.0	0.0001	0.0012	-0.0055	22.0725	-0.2366	0.0032	0.0237	0.1706	0.0245	0.2124



ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

PART 1. MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART		MACH		REFL		CONE		L		DEL1		DEL2		DEL3		DEL4		TRANSITION	
2	91	0.000	2.0	0.0	0.000	0.0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	FREE
POINT	ALPHA	EFF	C <sub>DF</sub>	C <sub>DI</sub>	C <sub>DB</sub>	XCPFF	YCPFF	C <sub>DF</sub>	C <sub>DI</sub>	C <sub>DB</sub>	XCPFF	YCPFF	C <sub>DF</sub>	C <sub>DI</sub>	C <sub>DB</sub>	XCPFF	YCPFF	C <sub>DF</sub>	YCPFF
1	-1.41	0.0	0.0000	-0.0000	0.0000	-0.1215	1.3227	0.0000	0.0000	0.0000	-0.0112	0.0142	0.5660						
2	-0.38	0.0	0.0000	-0.0000	0.0000	-0.0630	0.8296	0.0000	-0.0001	-0.0027	-0.0027	-2.8004	-55.0000						
3	0.03	0.0	0.0023	-0.0000	0.0000	-0.2844	2.2467	0.0000	-0.0007	0.0059	-0.0059	0.3131							
4	1.56	0.0	0.0024	-0.0000	0.0000	-0.1771	1.5382	0.0000	-0.0011	0.0143	-0.0280	0.3671							
5	2.66	0.0	0.0025	-0.0000	0.0000	-0.0200	1.0000	0.0000	-0.0018	0.0248	-0.0287	0.3922							
6	3.44	0.0	0.0030	-0.0000	0.0000	-0.0445	1.3781	0.0000	-0.0020	0.0354	-0.0215	0.3777							
7	5.46	0.0	0.0034	-0.0000	0.0000	-0.0442	1.3756	0.0000	-0.0014	0.0546	-0.0113	0.3452							
8	9.71	0.0	0.0043	-0.0000	0.0000	-0.0138	1.5333	0.0000	-0.0000	0.0913	-0.0000	0.3142							
9	13.78	0.0	0.0073	-0.0000	0.0000	-0.0102	1.1325	0.0000	-0.0056	0.1218	0.0134	0.2924							
10	17.97	0.0	0.0110	-0.0000	0.0111	-0.0253	0.9333	0.5217	0.0127	0.1411	0.0243	0.2704							
11	19.90	0.0	0.0152	-0.0000	0.0116	-0.0152	0.7209	0.5731	0.0170	0.1498	0.0294	0.2615							
12	25.03	0.0	0.0204	-0.0000	0.0134	-0.0304	0.6554	0.7178	0.0224	0.1853	0.0312	0.2581							
13	27.21	0.0	0.0204	-0.0000	0.0144	-0.0402	0.5772	0.7860	0.0204	0.2040	0.0260	0.2584							

ARABOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART	WALL	QALC	QALC	PHI	CONE	1	DEL1	DEL2	DEL3	DELA	TRANSITION
2	92	0.45	2.5	0.0	43.0135	0.0	0	0	0	0	FREE
POINT	ALPHA	BETA	CL	CLN	CV	CLN	CLL	CA	CAF	CAF	ACP
1	-1.61	0.0	-0.1260	-0.0744	-0.0203	-0.1651	-0.0020	0.3277	0.1104	0.2173	-0.6367
2	-0.34	0.0	-0.0191	-0.0030	0.0007	-0.0477	-0.0026	0.3272	0.1093	0.2179	2.1876
3	0.01	0.0	0.0055	-0.0152	0.0007	-0.0535	-0.0020	0.3251	0.1110	0.2161	-1.7592
4	1.66	0.0	0.1450	-0.0270	0.0134	-0.0551	-0.0040	0.3272	0.1123	0.2149	-1.4282
5	2.69	0.0	0.3262	-0.0457	0.0170	-0.0581	-0.0051	0.3252	0.1107	0.2105	-1.4303
6	3.40	0.0	0.4905	-0.0544	0.0190	-0.0617	-0.0050	0.3293	0.1174	0.2119	-1.4866
7	3.00	0.0	0.4750	-0.0532	0.0190	-0.0615	-0.0042	0.3249	0.1150	0.2091	-1.4911
8	5.71	0.0	0.7441	-1.0276	0.0165	-0.0550	-0.0050	0.3274	0.1250	0.2124	-1.6130
9	9.74	0.0	1.5655	-2.7507	0.0202	-0.0620	-0.0040	0.3074	0.1553	0.1920	-1.7608
10	13.75	0.0	2.5014	-4.4603	0.0259	-0.0760	-0.0093	0.3060	0.1424	0.1732	-1.7939
11	17.86	0.0	3.5470	-6.3037	0.0313	-0.1500	-0.0173	0.3760	0.2290	0.1000	-1.7745
12	19.90	0.0	4.1000	-7.3507	0.0703	-0.1650	-0.0149	0.3751	0.2462	0.1190	-1.7588
13	25.04	0.0	5.0000	-10.1200	0.0504	-0.2123	0.0072	0.3366	0.3500	0.0307	-1.7166
14	24.67	0.0	6.3000	-10.0203	0.0704	-0.2155	0.0027	0.2970	0.2962	0.0076	-1.6943
15	27.27	0.0	6.5000	-11.0124	0.1304	-0.3041	-0.0030	0.2440	0.2513	0.0032	-1.6520

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

SHEET 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME: RX10-0												
PMT CONF. 1												
2 92 0.65 2.5 C.0 030UF36 0.0 0 0 0 0 0 FREE												
POINT	ALPHA	BETA	CNF1	CNF1	CNF1	YCNF1	YCNF1	CNF2	CM7	CM2	XCNF2	YCNF2
1	-1.61	0.0	0.0020	-0.0001	0.0003	-0.0036	0.0035	-0.0026	0.0002	-0.0121	-0.0102	0.0025
2	-0.39	0.0	0.0020	-0.0001	0.0008	-0.0372	0.3512	-0.0044	-0.0003	-0.0034	0.0608	0.7770
3	0.61	0.0	0.0020	0.0001	0.0038	0.0201	0.9568	0.0102	-0.0008	0.0028	-0.0577	0.1969
4	1.64	0.0	0.0020	0.0000	0.0030	0.0076	1.1527	0.0359	-0.0011	0.0106	-0.0315	0.2950
5	2.69	0.0	0.0016	0.0005	0.0038	0.0169	2.4025	0.0619	-0.0016	0.0197	-0.0263	0.3183
6	3.40	0.0	0.0020	0.0000	-0.0014	0.0077	-0.5476	0.0046	-0.0021	0.0267	-0.0247	0.3391
7	3.66	0.0	0.0020	-0.0005	-0.0001	-0.0150	0.0000	0.0915	-0.0021	0.0306	-0.0228	0.3341
8	5.71	0.0	0.0020	0.0001	-0.0020	0.0305	-0.9729	0.1574	-0.0020	0.0496	-0.0127	0.3156
9	9.73	0.0	0.0010	-0.0000	0.0005	-0.0101	0.5051	0.3026	0.0006	0.0021	0.0021	0.2712
10	13.75	0.0	0.0050	-0.0005	0.0014	-0.1165	0.3273	0.0369	0.0044	0.1005	0.0100	0.2486
11	17.86	0.0	0.0050	-0.0001	0.0062	-0.0101	0.8531	0.5635	0.0006	0.1323	0.0174	0.2367
12	19.94	0.0	0.0175	0.0005	0.0015	0.0525	0.0937	0.6147	0.0141	0.1375	0.0229	0.2237
13	25.05	0.0	0.0007	-0.0021	0.0015	-0.3106	0.1458	0.7327	0.0211	0.1505	0.0287	0.2136
14	29.67	0.0	-0.0006	0.0021	-0.0054	-10.3014	20.2000	0.7737	0.0702	0.1658	0.0261	0.2142
15	27.27	0.0	0.0072	0.0020	-0.0058	0.3506	-0.7452	0.0078	0.0159	0.1732	0.0247	0.2144

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION AND TUNNEL FACILITY (PNT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RATIO=6 PHI CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION												
2 92 V.05 2.5 0.0 0.30036 0.0 0 0 0 0 FREE												
POINT	ALPHA	BETA	CNF3	CM3	Co3	XCPF3	YCPF3	CNF4	CM4	Co4	XCPF4	YCPF4
1	-1.01	0.0	-0.00004	-0.0011	0.0036	1.2308	-3.8750	-0.0200	0.0006	-0.0111	-0.0205	0.5562
2	-0.39	0.0	0.00024	-0.0005	0.0026	-0.2176	1.1046	-0.0001	-0.0001	-0.0030	0.6668	20.0667
3	0.61	0.0	0.00065	-0.00104	0.0062	-1.6553	8.0109	0.0082	-0.0007	0.0058	-0.0411	0.3189
4	1.04	0.0	0.00030	-0.0011	0.0044	-35.33-2	163.4944	0.0383	-0.0011	0.0142	-0.0292	0.3705
5	2.50	0.0	0.0001	-0.0002	0.0025	-0.06-5	0.6473	0.0620	-0.0020	0.0263	-0.0321	0.3910
6	3.40	0.0	0.00010	-0.0004	0.0043	-0.06-6	2.6270	0.0661	-0.0023	0.0332	-0.0266	0.3051
7	3.66	0.0	0.00024	-0.0005	0.0068	-0.1926	1.7951	0.0442	-0.0023	0.0358	-0.0262	0.3798
8	5.71	0.0	0.00017	-0.0007	0.0054	-0.3557	2.4093	0.1588	-0.0023	0.0562	-0.0144	0.3539
9	9.73	0.0	0.00034	-0.0001	0.0058	-0.0258	1.0773	0.2960	-0.0008	0.0928	-0.0026	0.3134
10	13.75	0.0	0.00067	-0.0005	0.0081	-0.0776	1.2132	0.4142	0.0002	0.1234	0.0101	0.2951
11	17.06	0.0	0.00125	-0.0005	0.0093	-0.0451	0.7360	0.5302	0.0105	0.1433	0.0199	0.2703
12	19.94	0.0	0.00100	-0.0006	0.0104	-0.0419	0.7418	0.5787	0.0145	0.1527	0.0250	0.2639
13	25.05	0.0	0.00170	-0.0006	0.0114	-0.0454	0.6758	0.7243	0.0187	0.1884	0.0254	0.2601
14	26.67	0.0	0.00143	-0.0014	0.0152	-0.0735	0.7869	0.7747	0.0167	0.2025	0.0216	0.2614
15	27.27	0.0	0.00201	-0.0013	0.0135	-0.0540	0.5600	0.7874	0.0166	0.2054	0.0211	0.2608

ARNOLD ENGINEERING DEVELOPMENT CENTER (AFML)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: RX10-6											
2 93 0.42 2.5 0.0 M3=0.56 0.0 0 0 0 0 FREE											
POINT	ALPHA	SETA	CN	CLN	CY	CLM	CLL	CA	CAR	CAF	ACP
1	-1.81	0.0	-0.1226	-0.0761	-0.0031	-0.0068	-0.0031	0.3558	0.1080	0.2468	-0.6205
2	-0.36	0.0	-0.0163	-0.0336	0.0124	-0.0649	-0.0039	0.3552	0.1121	0.2431	7.1762
3	0.63	0.0	0.0045	-0.1511	0.0136	-0.0510	-0.0009	0.3516	0.1100	0.2376	-1.7063
4	1.64	0.0	0.1945	-0.0523	0.0145	-0.0542	-0.0003	0.3516	0.1128	0.2368	-1.4148
5	2.65	0.0	0.3666	-0.5324	0.0160	-0.0553	-0.0002	0.3585	0.1129	0.2456	-1.6527
6	3.65	0.0	0.4774	-0.7141	0.0153	-0.0567	-0.0001	0.3541	0.1156	0.2344	-1.5041
7	4.64	0.0	0.4677	-1.5312	0.0201	-0.0541	-0.0006	0.3567	0.1216	0.2349	-1.6481
8	4.74	0.0	1.4661	-2.4021	0.0207	-0.0532	-0.0103	0.3766	0.1564	0.2702	-1.8141
9	13.74	0.0	2.5632	-4.7186	0.0272	-0.0272	-0.0102	0.3931	0.1902	0.2029	-1.8409
10	17.47	0.0	3.6644	-6.5625	0.0609	-0.1532	-0.0172	0.3948	0.2345	0.1603	-1.7909
11	13.33	0.0	6.2443	-7.5614	0.0613	-0.1622	-0.0143	0.3966	0.2555	0.1639	-1.7702
12	25.13	0.0	6.0147	-9.5455	0.0611	-0.1650	-0.0107	0.3543	0.2901	0.0642	-1.6605
13	27.34	0.0	6.7976	-10.5000	0.0641	-0.1689	-0.0134	0.3173	0.3016	0.0157	-1.5570

TEST PART MACH 6.14-6 PHI CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION												
2 43 4.42 2.5 0.0 N30DF36 0.0 0 0 0 0 FREE												
POINT	ALPHA	BETA	CNF1	C-1	C-1	YCPF1	YCPF1	CNF2	CN2	C82	YCPF2	YCPF2
1	-1.41	0.0	0.0014	-0.0000	0.0035	0.0158	1.4211	-0.0255	0.0000	-0.0138	-0.0012	0.5401
2	-0.36	0.0	0.0036	0.0001	0.0032	0.0212	3.4434	-0.0043	-0.0004	-0.0054	0.0003	1.2454
3	0.63	0.0	0.0063	0.0000	0.0034	0.0220	1.0000	0.0155	-0.0004	-0.0009	-0.0060	0.0573
4	1.64	0.0	0.0017	0.0	-0.0015	0.0	-1.1170	0.0355	-0.0013	0.0101	-0.0366	0.2801
5	2.64	0.0	0.0004	-0.0001	0.0000	-0.1500	6.6167	0.0000	-0.0026	0.0208	-0.0302	0.3057
6	3.65	0.0	0.0013	-0.0001	0.0012	-0.0514	0.0593	0.0020	-0.0025	0.0295	-0.0269	0.3202
7	5.65	0.0	0.0010	0.0001	0.0030	0.0541	1.6446	0.1549	-0.0027	0.0477	-0.0171	0.2984
8	4.74	0.0	0.0022	0.0002	-0.0042	0.0746	-1.4874	0.3047	-0.0013	0.0429	-0.0041	0.2646
9	13.74	0.0	0.0004	-0.0004	0.0015	-0.0922	0.3053	0.4427	0.0003	0.1105	0.0007	0.2496
10	17.87	0.0	0.0000	0.0000	0.0037	0.0055	0.4055	0.5657	0.0046	0.1338	0.0081	0.2366
11	19.93	0.0	0.0172	-0.0006	0.0057	-0.0547	0.5607	3.6163	0.0067	0.1618	0.0109	0.2294
12	25.13	0.0	-0.0007	-0.0007	0.0016	0.1039	-0.2583	0.7478	0.0118	0.1653	0.0158	0.2211
13	27.34	0.0	-0.0127	0.0000	-0.0015	0.0731	0.1155	0.0073	0.0137	0.1774	0.0149	0.2197

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 3 OF 3

MAINTAIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH REYNOLDS PHI CORN L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2	93	0.62	2.5	0.0	63.0	CF36	0.0	0	0	0	0	FREE
POINT	ALPHA	BETA	CNF3	CNF3	CNF3	XCFF3	YCFF3	CNF4	CNF4	CB4	XCFF4	YCFF4
1	-1.41	0.0	-0.0002	-0.0002	0.0017	-0.5046	-0.7222	-0.0191	-0.0004	-0.0106	-0.0204	-0.5544
2	-0.36	0.0	0.0010	-0.0005	0.0014	-0.2476	1.0044	0.0006	-0.0002	-0.0019	-0.0493	-0.0317
3	0.63	0.0	-0.0000	-0.0010	0.0032	-1.7163	-0.3167	0.0106	-0.0008	0.0068	-0.0419	-0.3456
4	1.64	0.0	0.0000	-0.0000	0.0027	-1.2740	0.3175	0.0388	-0.0012	0.0145	-0.0314	0.3737
5	2.58	0.0	0.0024	-0.0006	0.0027	-0.1557	0.9343	0.0649	-0.0022	0.0253	-0.0339	0.3987
6	3.65	0.0	0.0014	-0.0000	0.0024	-0.3211	1.3845	0.0940	-0.0027	0.0364	-0.0291	0.3865
7	5.64	0.0	0.0021	-0.0000	0.0030	-0.2337	1.5841	0.1611	-0.0030	0.0565	-0.0149	0.3505
8	4.74	0.0	0.0032	-0.0003	0.0051	-0.1036	1.6064	0.3006	-0.0027	0.0943	-0.0089	0.3138
9	13.74	0.0	0.0054	-0.0000	0.0073	-0.0906	1.1847	0.4254	0.0001	0.1264	0.0004	0.2971
10	17.97	0.0	0.0103	-0.0000	0.0047	-0.0736	0.8437	0.5303	0.0052	0.1466	0.0098	0.2769
11	19.93	0.0	0.0140	-0.0007	0.0102	-0.0449	0.7250	0.5868	0.0075	0.1595	0.0128	0.2718
12	25.13	0.0	0.0140	-0.0000	0.0165	-0.0410	0.5711	0.7278	0.0094	0.1931	0.0137	0.2654
13	27.39	0.0	0.0243	-0.0010	0.0110	-0.0423	0.6688	0.7860	0.0107	0.2112	0.0136	0.2607

TEST PART NAME BX10-A											
2		46 J.50 2.5		0.0 03.0736		0.0		DEL1	DEL2	DEL3	DEL4 TRANSITION
								0	0	0	0 FREE
POINT	ALPHA	MFT	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-1.81	0.0	-0.1213	0.0034	0.0140	-0.0603	-0.0004	0.0155	0.1325	0.2630	-0.8035
2	-0.30	0.0	-0.0176	-0.0304	0.0077	-0.0603	-0.0078	0.0251	0.1242	0.2909	1.7742
3	0.65	0.0	0.0093	-0.1032	0.0185	-0.0603	-0.0051	0.0238	0.1360	0.2847	-1.8033
4	1.64	0.0	0.0061	-0.0995	0.0084	-0.0604	-0.0047	0.0134	0.1303	0.2831	-1.4534
5	2.65	0.0	0.0000	-0.0112	0.0150	-0.0605	-0.0049	0.0162	0.1293	0.2668	-1.8742
6	3.66	0.0	0.0000	-0.0778	0.0127	-0.0606	-0.0102	0.0213	0.1133	0.2880	-1.5681
7	5.65	0.0	0.0027	-1.0355	0.0155	-0.0620	-0.0040	0.0250	0.1035	0.2815	-1.6858
8	6.70	0.0	1.0397	-2.0000	0.0221	-0.0614	-0.0120	0.0421	0.1735	0.2665	-1.4086
9	13.78	0.0	2.0153	-4.7542	0.0275	-0.0713	-0.0157	0.0587	0.2218	0.2369	-1.8197
10	17.67	0.0	3.7772	-6.7341	0.0677	-0.1646	-0.0220	0.0790	0.2528	0.2242	-1.7620
11	19.95	0.0	4.4434	-7.7502	0.0701	-0.1760	-0.0200	0.0778	0.2975	0.1803	-1.7441
12	25.24	0.0	6.3222	-10.0457	0.1642	-0.2671	-0.0126	0.0191	0.3099	0.1042	-1.5953
13	27.09	0.0	7.1705	-12.0736	0.0543	-0.1641	-0.0251	0.3730	0.3165	0.0549	-1.4980



ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPELLION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

PART II MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: HLL-6 PMI CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION												
2 94 0.00 2.05 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0												
POINT	ALPHA	BETA	CMF1	CM1	CM2	YCPF1	YCPF2	CMF2	CM2	CM2	YCPF2	YCPF2
1	-1.01	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	-0.30	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.45	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	1.44	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5	2.65	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	3.60	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	5.09	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	9.70	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	13.70	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	17.87	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
11	19.95	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	25.74	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	27.45	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000



AERONAUTICAL ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST POINT WACH RAIL-6											
2	95	1.10	2.5	PHI	CLM	1	DEL1	DEL2	DEL3	DEL4	TRANSITION
				0.0	0.30UP36	0.0	0	0	0	0	FREE
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAN	CAF	KCP
1	-1.41	0.0	-0.0020	-0.0041	0.0154	-0.0077	-0.0049	0.5832	0.2157	0.3675	-0.7228
2	-0.61	0.0	-0.0020	-0.0041	0.0154	-0.0077	-0.0043	0.5821	0.2156	0.3664	-0.0015
3	0.62	0.0	0.0020	0.0041	-0.0154	0.0077	0.0049	0.5816	0.2156	0.3672	-1.7725
4	1.63	0.0	0.0142	0.0316	0.0161	-0.0077	-0.0112	0.5811	0.2140	0.3671	-1.4782
5	2.68	0.0	0.0352	0.0515	0.0212	-0.0077	-0.0117	0.5798	0.2152	0.3645	-1.4618
6	3.68	0.0	0.0513	0.0713	0.0235	-0.0077	-0.0118	0.5785	0.2138	0.3647	-1.5057
7	4.71	0.0	0.0652	0.0845	0.0264	-0.0077	-0.0133	0.5804	0.2204	0.3584	-1.6813
8	5.74	0.0	0.0824	0.1027	0.0324	-0.0077	-0.0168	0.6304	0.2731	0.3572	-1.7613
9	13.96	0.0	0.0830	0.0527	0.0381	-0.0077	-0.0172	0.6452	0.2987	0.3464	-1.7506
10	17.95	0.0	0.0742	0.0311	0.0455	-0.0153	-0.0192	0.6324	0.2952	0.3373	-1.6744
11	20.05	0.0	0.0650	0.0123	0.0708	-0.0174	-0.0215	0.6127	0.3009	0.3119	-1.5882
12	25.42	0.0	0.0523	0.0046	0.1165	-0.2534	-0.0043	0.5808	0.3762	0.2446	-1.3987
13	27.74	0.0	0.0470	0.0050	0.0955	-0.0027	-0.0255	0.5584	0.3658	0.2131	-1.2970

AEDC ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PMT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME		REF	PMI		CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION		
2		95 1.010 2.5	0.0		03.0036	0.0	0	0	0	0	FREE		
POINT	ALPHA	BETA	CNF1	CM1	CM2	YCPF1	YCPF1	CNF2	CM2	CM2	YCPF2	YCPF2	
1	-1.61	0.0	0.0013	-0.0002	0.0033	-0.1424	2.6150	-0.0262	0.0010	-0.0169	-0.0389	0.6665	
2	-0.41	0.0	0.0000	-0.0003	0.0013	-0.5001	2.0484	-0.0045	-0.0001	-0.0078	0.0248	1.7450	
3	0.62	0.0	0.0012	-0.0001	0.0014	-0.3642	1.1721	0.0177	-0.0011	-0.0002	-0.0599	-0.0090	
4	1.63	0.0	0.0000	-0.0000	0.0000	-0.0116	0.0581	0.0403	-0.0018	0.0004	-0.0452	0.2087	
5	2.68	0.0	0.0000	0.0000	0.0038	0.0000	0.0038	0.0671	-0.0029	0.0178	-0.0433	0.2650	
6	3.66	0.0	0.0004	0.0001	0.0032	0.0002	0.5945	0.0064	-0.0044	0.0292	-0.0448	0.2964	
7	5.71	0.0	0.0014	-0.0002	0.0000	-0.1455	2.7778	0.1056	-0.0061	0.0430	-0.0368	0.2957	
8	9.74	0.0	0.0013	-0.0002	0.0014	-0.1029	1.1270	0.3095	-0.0067	0.0425	-0.0216	0.2666	
9	13.84	0.0	0.0001	-0.0013	0.0022	-0.2500	0.5388	0.4380	-0.0076	0.1105	-0.0174	0.2523	
10	17.95	0.0	0.0024	-0.0014	0.0053	-0.3474	1.6027	0.5504	-0.0076	0.1348	-0.0139	0.2440	
11	20.05	0.0	0.0003	-0.0004	-0.0009	-0.0667	-0.2069	0.6055	-0.0087	0.1466	-0.0144	0.2421	
12	24.42	0.0	0.0014	-0.0003	0.0004	-0.0203	0.3848	0.7453	-0.0122	0.1793	-0.0164	0.2405	
13	27.74	0.0	-0.0000	-0.0001	-0.0019	-0.0676	1.6095	0.7980	-0.0136	0.1931	-0.0168	0.2410	

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

PART I - MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: BELL-6												
2 94 1.01 2.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0												
FREE												
POINT	ALPHA	BETA	CN13	CN3	CN3	YCPF3	YCPF3	CN4	CN4	CR4	YCPF4	YCPF4
1	-1.61	0.0	0.0005	-0.0014	0.0004	-3.3330	2.3704	-0.0012	0.0010	-0.0130	-0.0506	0.6780
2	-0.61	0.0	0.0005	-0.0014	0.0004	-3.3330	2.3704	-0.0017	-0.0001	-0.0040	-0.0877	-2.3567
3	0.62	0.0	-0.0017	-0.0024	0.0003	1.3728	-3.5118	0.0229	-0.0012	-0.0052	-0.0533	-0.2272
4	1.63	0.0	0.0015	-0.0015	0.0004	-1.1937	2.4677	0.0038	-0.0021	0.0138	-0.0484	0.3164
5	2.66	0.0	0.0013	-0.0014	0.0005	-1.5118	0.3488	0.0099	-0.0034	0.0250	-0.0686	0.3579
6	3.66	0.0	0.0017	-0.0014	0.0007	-1.1019	2.8144	0.0984	-0.0347	0.0366	-0.0471	0.3705
7	5.71	0.0	0.0021	-0.0014	0.0007	-0.4301	2.8600	0.1668	-0.0062	0.0570	-0.0374	0.3419
8	9.74	0.0	0.0030	-0.0015	0.0004	-0.4175	1.8120	0.2944	-0.0081	0.0926	-0.0273	0.3102
9	13.84	0.0	0.0070	-0.0017	0.0003	-0.2209	1.2288	0.4205	-0.0027	0.1260	-0.0183	0.2998
10	17.95	0.0	0.0094	-0.0016	0.0004	-0.1340	1.0352	0.5237	-0.0064	0.1463	-0.0123	0.2832
11	20.05	0.0	0.0115	-0.0004	0.0002	-0.0736	0.8535	0.5760	-0.0067	0.1607	-0.0116	0.2790
12	25.42	0.0	0.0100	-0.0007	0.0105	-0.0440	0.6429	0.7170	-0.0117	0.2029	-0.0163	0.2818
13	27.75	0.0	0.0114	-0.0004	0.0107	-0.0422	0.5358	0.7749	-0.0153	0.2210	-0.0197	0.2852

AMTOL ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

AMTOL MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PARAMETERS											
2	VA	1.20	2.5	PMI	CONF	1	DEL1	DEL2	DEL3	DEL4	TRANSITION
				0.0	0.300036	0.0	0	0	0	0	FREE
POINT	ALPHA	CFI	CN	CLM	CY	CLW	CLL	CA	CA4	CAF	ACP
1	-1.00	0.00	-0.1117	-0.0000	-0.0000	-0.0000	-0.0000	0.5686	0.1896	0.3790	0.0052
2	-0.01	0.00	-0.0000	-0.1231	-0.0000	-0.0000	-0.0000	0.5672	0.1905	0.3747	0.1059
3	0.00	0.00	0.1177	-0.2537	-0.0000	-0.0000	-0.0000	0.5661	0.1913	0.3708	-0.1574
4	1.00	0.00	0.2304	-0.3011	-0.0000	-0.0000	-0.0000	0.5672	0.1924	0.3748	-1.0397
5	2.00	0.00	0.3605	-0.3553	-0.0000	-0.0000	-0.0000	0.5657	0.1936	0.3721	-1.5149
6	3.00	0.00	0.5100	-0.4004	-0.0000	-0.0000	-0.0000	0.5654	0.1962	0.3692	-1.5406
7	4.00	0.00	0.6471	-0.4300	-0.0000	-0.0000	-0.0000	0.5754	0.2073	0.3601	-1.5920
8	5.00	0.00	0.7606	-0.4610	-0.0000	-0.0000	-0.0000	0.6154	0.2427	0.3727	-1.6713
9	10.00	0.00	0.6200	-0.4700	-0.0000	-0.0000	-0.0000	0.6229	0.2655	0.3575	-1.6328
10	15.00	0.00	0.4700	-0.4700	-0.0000	-0.0000	-0.0000	0.6131	0.2809	0.3321	-1.5070
11	20.00	0.00	0.3500	-0.4700	-0.0000	-0.0000	-0.0000	0.5951	0.2833	0.3118	-1.4044
12	25.00	0.00	0.2500	-0.4700	-0.0000	-0.0000	-0.0000	0.5724	0.3086	0.2639	-1.2004
13	30.00	0.00	0.1500	-0.4700	-0.0000	-0.0000	-0.0000	0.5437	0.3398	0.2439	-1.1386

ARMED ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 2 OF 3

PART 1 MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART CALH. RLU=6												
2		94 1020 2.5		PHI CONF		1		DEL1 DEL2 DEL3 DEL4 TRANSITION				
				0.0 0.306436 0.0		0 0 0 0				FREE		
POINT	ALPHA	BETA	CNF1	CNF1	CNF1	YCNF1	CNF2	CNF2	CNF2	C82	KCNF2	YCNF2
1	-1.62	0.0	-0.0032	0.0012	-0.0029	-0.0022	0.0730	-0.0258	-0.0005	-0.0100	0.0201	0.5573
2	-0.41	0.0	-0.0031	0.0012	0.0000	-0.0007	-0.1424	-0.0052	-0.0014	-0.0064	0.2715	1.2256
3	0.60	0.0	-0.0030	0.0011	0.0003	-0.0007	-0.0720	0.0160	-0.0020	0.0012	-0.1420	0.0782
4	1.64	0.0	-0.0030	0.0004	0.0007	-0.0015	-0.1206	0.0306	-0.0036	0.0009	-0.0973	0.2305
5	2.06	0.0	-0.0034	0.0010	0.0005	-0.0017	-0.1043	0.0650	-0.0048	0.0146	-0.0745	0.2857
6	3.69	0.0	-0.0045	0.0011	0.0003	-0.0030	-0.0571	0.0940	-0.0062	0.0200	-0.0652	0.3020
7	5.70	0.0	-0.0040	0.0013	0.0001	-0.0033	0.0882	0.1580	-0.0070	0.0463	-0.0490	0.2963
8	6.77	0.0	-0.0043	0.0014	0.0000	-0.0037	0.0859	0.2936	-0.0089	0.0740	-0.0302	0.2688
9	13.40	0.0	-0.0047	0.0014	0.0023	-0.0038	0.0534	0.4113	-0.0094	0.1057	-0.0229	0.2571
10	19.07	0.0	-0.0050	0.0004	0.0015	-0.0044	0.2714	0.5176	-0.0114	0.1293	-0.0221	0.2490
11	20.21	0.0	-0.0050	0.0004	0.0020	-0.0044	0.0100	0.5686	-0.0126	0.1411	-0.0221	0.2482
12	25.65	0.0	-0.0051	0.0014	0.0013	-0.0056	0.1397	0.7009	-0.0155	0.1746	-0.0210	0.2463
13	28.00	0.0	-0.0052	0.0014	0.0017	-0.0056	0.3308	0.7635	-0.0162	0.1891	-0.0230	0.2477

TEST PART NAME		PHI		CONF		L		DEL1	DEL2	DEL3	DEL4	TRANSITION	
2		96 1.20 2.5		0.0 03-0436		0.0		0	0	0	0	FREE	
POINT	ALPHA	REF	CMF3	CM3	CD3	XCDF3	YCDF3	CMF4	CM4	CB4	XCDF4	YCDF4	
1	-1.42	0.0	-0.0005	-0.0005	0.0005	0.1200	-0.5422	-0.0166	-0.0006	-0.0125	0.0368	0.7535	
2	-0.01	0.0	-0.0019	-0.0006	0.0011	0.2211	-0.5737	0.0031	-0.0016	-0.0037	-0.4611	-1.2013	
3	0.60	0.0	-0.0039	-0.0007	0.0028	0.2125	-0.8078	0.0248	-0.0028	0.0047	-0.0981	0.1897	
4	1.64	0.0	-0.0024	-0.0007	0.0025	0.2475	-0.8780	0.0451	-0.0037	0.0140	-0.0813	0.3101	
5	2.66	0.0	-0.0012	-0.0006	0.0029	0.3016	-1.5850	0.0892	-0.0050	0.0280	-0.0728	0.3875	
6	3.69	0.0	-0.0010	-0.0006	0.0037	0.6373	-3.7835	0.0995	-0.0050	0.0354	-0.0603	0.3555	
7	5.70	0.0	0.0017	-0.0007	0.0033	1.0162	-6.8592	0.1628	-0.0072	0.0552	-0.0446	0.3801	
8	9.77	0.0	0.0035	-0.0007	0.0067	0.2000	-1.7183	0.2884	-0.0094	0.0898	-0.0327	0.3115	
9	13.86	0.0	0.0053	-0.0007	0.0082	0.1118	-1.2913	0.4008	-0.0100	0.1208	-0.0250	0.3009	
10	18.07	0.0	0.0120	-0.0005	0.0111	0.0854	-0.8376	0.4497	-0.0116	0.1455	-0.0232	0.2912	
11	20.21	0.0	0.0134	-0.0005	0.0106	0.0651	-0.7989	0.5521	-0.0126	0.1549	-0.0231	0.2895	
12	25.49	0.0	0.0215	-0.0007	0.0114	0.0325	-0.5520	0.6877	-0.0158	0.1945	-0.0230	0.2901	
13	28.00	0.0	0.0245	-0.0007	0.0125	0.0250	-0.5028	0.7393	-0.0135	0.2161	-0.0268	0.2923	



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION AND TUNNEL FACILITY (PMT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 3      PART IV MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART NAME: HX10-A											
PMI CLASS: 1											
CELL: DEL1 DEL2 DEL3 DEL4 TRANSITION											
2      VE 1.3u 2.5      0.0 H30CF36      0.0      0      0      0      0      FREE											
POINT	ALPHA	BETA	CM	CLM	CV	CLN	CLL	CA	CAR	CAF	KCP
1	-1.00	0.0	-0.1665	0.2662	0.0663	-0.1667	-0.0112	0.5610	0.2013	0.3344	-1.5490
2	-0.37	0.0	-0.0665	0.1477	0.0513	-0.1670	-0.0124	0.5374	0.1965	0.3415	-3.1787
3	0.00	0.0	0.0736	0.1662	0.0664	-0.1666	-0.0145	0.5377	0.1934	0.3442	-0.2199
4	1.66	0.0	0.1913	-0.1131	0.0534	-0.1908	-0.0153	0.5393	0.1966	0.3427	-0.5911
5	2.71	0.0	0.3242	-0.2462	0.0515	-0.1673	-0.0164	0.5376	0.1997	0.3380	-0.8966
6	3.71	0.0	0.4751	-0.3258	0.0512	-0.1672	-0.0165	0.5358	0.1499	0.3359	-1.1068
7	5.71	0.0	0.7977	-0.4677	0.0501	-0.1673	-0.0173	0.5486	0.2018	0.3468	-1.3136
8	9.41	0.0	1.6413	-2.0322	0.0427	-0.1671	-0.0146	0.5402	0.2360	0.3543	-1.4910
9	13.94	0.0	2.5460	-3.0005	0.0465	-0.1658	-0.0162	0.5490	0.2669	0.3321	-1.6794
10	19.14	0.0	3.4426	-5.2150	0.0767	-0.1744	-0.0235	0.5661	0.2480	0.3180	-1.3535
11	24.34	0.0	4.6046	-5.0544	0.0556	-0.1775	-0.0277	0.5773	0.2709	0.3064	-1.2715
12	25.44	0.0	6.6417	-7.2541	0.1151	-0.2003	-0.0259	0.5762	0.3784	0.2678	-1.8922
13	25.14	0.0	7.5224	-7.0204	0.0515	-0.1800	-0.0335	0.5618	0.3299	0.2619	-1.8485

TEST PART NAME: LAUNCHER												
CONF. 1												
DEL1 DEL2 DEL3 DEL4 TRANSITION												
2 4A 1.50 2.5 0.0 0.30 0.36 0.0 0 0 0 0 FREE												
POINT	ALPHA	BETA	CNF1	CNF2	CNF3	ACFF1	YCPF1	CNF2	CNF3	C02	XCPF2	YCPF2
1	-1.00	0.0	0.0000	-0.0012	0.0011	-0.0013	1.3750	-0.0029	0.0011	-0.0005	-0.0000	0.0000
2	-0.37	0.0	0.0000	-0.0013	0.0000	-0.0010	1.0701	-0.0006	0.0011	-0.0124	-0.1100	1.2822
3	0.00	0.0	0.0000	-0.0011	0.0000	-0.0009	1.7793	-0.0124	0.0002	-0.0051	0.0170	-0.0087
4	1.00	0.0	0.0000	-0.0010	0.0000	-0.0000	1.6107	0.0037	-0.0000	0.0023	-0.0249	0.0676
5	2.71	0.0	0.0000	-0.0013	0.0000	-0.0002	0.2500	0.0012	-0.0010	0.0111	-0.0250	0.1816
6	3.71	0.0	0.0000	-0.0000	0.0000	-0.0000	1.6413	0.0000	-0.0000	0.0270	-0.0316	0.2448
7	5.71	0.0	0.0000	-0.0000	0.0000	-0.0000	2.0000	0.1515	-0.0000	0.0390	-0.0100	0.2625
8	9.01	0.0	0.0000	-0.0000	0.0000	-0.0000	2.0000	0.2813	-0.0000	0.0710	-0.0210	0.2523
9	13.94	0.0	0.0000	-0.0000	0.0000	-0.0000	0.6500	0.3925	-0.0000	0.0970	-0.0190	0.2470
10	18.16	0.0	-0.0000	-0.0000	0.0000	1.1230	-7.1570	0.4922	-0.0111	0.1202	-0.0226	0.2402
11	20.30	0.0	-0.0000	-0.0000	0.0000	0.0000	-0.5000	0.5000	-0.0127	0.1327	-0.0233	0.2421
12	25.00	0.0	-0.0000	-0.0000	0.0000	0.0000	-0.0100	0.6791	-0.0185	0.1641	-0.0272	0.2490
13	25.16	0.0	-0.0000	-0.0000	0.0000	0.0000	0.2557	0.7245	-0.0201	0.1639	-0.0332	0.2530

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: R110-A												
PHI: 0.0												
L: 0.0												
DEL1: 0												
DEL2: 0												
DEL3: 0												
DEL4: 0												
TRANSITION: FREE												
POINT	ALPHA	BETA	CMF3	CMF4	CMF5	ACMF3	YCPF3	CMF4	CM4	CM4	ACMF4	YCPF4
1	-1.00	0.0	0.0101	-0.0029	0.0101	-1.3523	2.0657	-0.0025	0.0021	-0.0162	-0.0354	0.7166
2	-0.37	0.0	0.0022	-0.0031	0.0047	-1.3542	2.0976	-0.0015	0.0011	-0.0073	-0.0753	4.9000
3	0.66	0.0	0.0021	-0.0133	0.0056	-1.5621	2.0614	-0.0106	0.0001	-0.0017	-0.0050	0.0915
4	1.66	0.0	0.0074	-0.0032	0.0042	-1.3546	2.6371	0.0389	-0.0008	0.0046	-0.0216	0.2460
5	2.71	0.0	0.0041	-0.0031	0.0055	-0.7710	1.6532	0.0641	-0.0023	0.0208	-0.0359	0.3240
6	3.71	0.0	0.0037	-0.0042	0.0063	-0.8540	1.6470	0.0932	-0.0034	0.0310	-0.0364	0.3325
7	5.71	0.0	0.0044	-0.0020	0.0054	-0.5340	1.2043	0.1530	-0.0050	0.0645	-0.0329	0.3230
8	4.71	0.0	0.0053	-0.0023	0.0073	-0.6752	1.3614	0.2725	-0.0067	0.0837	-0.0245	0.3072
9	13.44	0.0	0.0055	-0.0010	0.0065	-0.2948	1.5353	0.3769	-0.0078	0.1121	-0.0206	0.2873
10	14.16	0.0	0.0101	-0.0010	0.0103	-0.0970	1.0198	0.4696	-0.0097	0.1360	-0.0206	0.2897
11	20.34	0.0	0.0115	-0.0010	0.0106	-0.0655	0.9041	0.5224	-0.0110	0.1511	-0.0211	0.2883
12	25.44	0.0	0.0175	-0.0005	0.0114	-0.0353	0.6382	0.6499	-0.0144	0.1929	-0.0289	0.2960
13	25.14	0.0	0.0227	-0.0005	0.0114	-0.0357	0.5258	0.6803	-0.0245	0.2116	-0.0350	0.3030

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PNEUMATIC WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART		WALL RATIO		PMI	CONE	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
2		10% V.000 2.0		0.0	0.300F32	0.0	0	0	0	0	FREE
POINT	ALPHA	BETA	C <sub>x</sub>	CLM	C <sub>y</sub>	CL <sub>y</sub>	CLL	CA	C <sub>DE</sub>	CAF	XCP
1	-1.44	0.0	-0.0023	0.1145	-0.0233	0.0220	-0.0011	0.3087	0.1133	0.1954	-0.8397
2	-0.44	0.0	-0.0023	-0.0170	-0.0024	0.0214	-0.0011	0.3093	0.1131	0.1942	0.6704
3	0.57	0.0	0.0023	-0.1487	-0.0212	0.0220	-0.0007	0.3099	0.1136	0.1962	-1.6568
4	1.57	0.0	0.0014	-0.2423	-0.0194	0.0210	-0.0006	0.3076	0.1136	0.1940	-1.4004
5	2.55	0.0	0.0317	-0.4460	-0.0234	0.0273	-0.0022	0.3077	0.1152	0.1924	-1.3884
6	3.63	0.0	0.0677	-0.6674	-0.0237	0.0315	0.0004	0.3068	0.1174	0.1890	-1.4269
7	5.63	0.0	0.0677	-1.336	-0.0227	0.0470	0.0013	0.3051	0.1250	0.1600	-1.6223
8	9.76	0.0	1.6145	-3.0467	-0.0147	0.0344	0.0016	0.3151	0.1467	0.1665	-1.8917
9	13.73	0.0	2.444	-5.4263	-0.0144	0.0427	0.0049	0.3264	0.1783	0.1485	-2.0492
10	17.82	0.0	3.4419	-4.0277	-0.0107	0.0217	0.0098	0.3302	0.2057	0.1244	-2.0895
11	19.84	0.0	4.4227	-4.1657	0.0003	0.0065	0.0113	0.3265	0.2255	0.1010	-2.0764
12	25.03	0.0	6.0644	-12.1860	0.0709	-0.1778	0.0305	0.3274	0.2469	0.0310	-2.0090
13	27.25	0.0	6.0676	-13.4164	0.0545	-0.2152	0.0420	0.3095	0.3279	0.0184	-1.9689

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST FACT VALUE RATIO=6												
2	105	0.00	2.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	FREE
POINT	ALPHA	WETA	CXF1	CM1	CL1	KCPF1	YCPF1	CMF2	CM2	CL2	KCPF2	YCPF2
1	-1.04	0.0	0.0000	0.0000	-0.0000	-1.1539	-7.9016	-0.0272	-0.0005	-0.0100	0.3111	0.3882
2	-0.44	0.0	0.0000	0.0000	-0.0000	0.1439	-6.6557	-0.0047	-0.0012	-0.0025	0.2468	0.5253
3	0.57	0.0	-0.0002	-0.0002	-0.0013	1.2901	7.7054	0.0152	0.0054	0.0058	0.3577	0.3808
4	1.57	0.0	-0.0000	-0.0000	-0.0000	0.6746	4.6429	0.0372	0.0120	0.0165	0.3225	0.4442
5	2.59	0.0	0.0000	-0.0000	-0.0014	-5.6060	-28.0000	0.0660	0.0190	0.0252	0.3055	0.3930
6	3.53	0.0	-0.0012	-0.0005	-0.0042	0.4103	7.9060	0.0437	0.0206	0.0348	0.2862	0.3926
7	5.53	0.0	-0.0010	-0.0000	-0.0049	0.2556	3.3128	0.1629	0.0603	0.0692	0.2473	0.4247
8	7.70	0.0	0.0000	-0.0004	-0.0070	-0.4367	-10.3070	0.3307	0.0627	0.1471	0.1896	0.4448
9	13.73	0.0	0.0000	-0.0000	-0.0057	-0.2307	-11.7103	0.5345	0.0735	0.2334	0.1374	0.4367
10	17.42	0.0	0.0000	-0.0010	-0.0034	-1.0441	-6.4102	0.7531	0.0907	0.3301	0.1205	0.4384
11	19.56	0.0	0.0014	-0.0013	-0.0025	-0.7453	-1.3421	0.9436	0.0987	0.3748	0.1170	0.4395
12	25.03	0.0	0.0000	-0.0000	0.0052	-0.0000	0.2297	1.0458	0.1105	0.4473	0.1057	0.4277
13	27.25	0.0	0.0000	-0.0000	0.0119	-0.0335	0.4300	1.1260	0.1150	0.4764	0.1020	0.4220

ARWOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION AND TUNNEL FACILITY (PT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

PARTIAL MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH RANGE											
2 105 0.80 2.5											
PMI CNF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
J.0 0.30CF32 0.0 0 0 0 0 FREE											
POINT	ALPHA	hFT	CF3	CM3	CM3	ACMF3	YCPF3	CMF4	CM4	CM4	YCPF4
1	-1.89	0.0	-0.0084	-0.0001	0.0016	0.0183	-0.2853	-0.0252	-0.0007	-0.0163	0.3367
2	-0.44	0.0	-0.0025	0.0007	0.0005	-0.2771	-0.1924	-0.0036	-0.0010	-0.0050	0.2798
3	0.57	0.0	-0.0024	0.0025	0.0005	-0.3306	-0.1901	0.0181	0.0066	0.0050	0.3653
4	1.57	0.0	-0.0020	0.0010	0.0003	-0.5172	-0.1527	0.0386	0.0133	0.0154	0.3441
5	2.54	0.0	-0.0023	0.0004	-0.0006	-0.4352	0.2639	0.0632	0.0204	0.0262	0.3228
6	3.53	0.0	-0.0024	0.0004	0.0	-0.3659	0.0	0.0913	0.0278	0.0399	0.3051
7	5.53	0.0	-0.0030	0.0011	0.0002	-0.3356	-0.0735	0.1564	0.0612	0.0752	0.2591
8	9.70	0.0	-0.0054	-0.0002	0.0012	0.0236	-0.1758	0.3148	0.0621	0.1597	0.1974
9	13.73	0.0	-0.0084	-0.0000	0.0013	0.0012	-0.1590	0.5091	0.0592	0.2570	0.1359
10	17.82	0.0	-0.0155	-0.0004	0.0004	0.0153	-0.1042	0.7101	0.0864	0.3591	0.1194
11	19.86	0.0	-0.0697	-0.0005	0.0000	0.0513	-0.0021	0.7966	0.0925	0.4628	0.1162
12	25.03	0.0	-0.0074	-0.0002	0.0005	0.0292	-0.3215	0.5992	0.1079	0.4494	0.1080
13	27.25	0.0	-0.0054	-0.0000	0.0002	-0.0632	-0.6541	1.0774	0.1137	0.5191	0.1055

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC) PROPELLION WIND TUNNEL FACILITY(PWT) AERODYNAMIC WIND TUNNEL(AT)  
 PAGE 1 OF 3 MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1

TEST PART NAME RAL-00 PHI CONE L DEL1 DEL2 DEL3 DEL4 TRANSITION											
2 106 0.65 2.5 0.0 03.0F32 0.0 0 0 0 0 FREE											
POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAR	CAF	KCP
1	-1.49	0.0	-0.1111	-0.0005	-0.0156	0.0006	-0.0010	0.3177	0.1135	0.2002	-0.0057
2	-0.47	0.0	-0.0152	-0.0037	-0.0215	0.0070	-0.0004	0.3165	0.1141	0.2024	-0.1805
3	0.57	0.0	0.0010	-0.1003	-0.0198	0.0160	-0.0006	0.3163	0.1102	0.2021	-2.0073
4	1.57	0.0	0.2274	-0.3510	-0.0144	0.0126	-0.0009	0.3160	0.1132	0.2029	-1.5750
5	2.55	0.0	0.3650	-0.5230	-0.0177	0.0167	-0.0010	0.3166	0.1149	0.1996	-1.5156
6	3.60	0.0	0.0010	-0.7617	-0.0163	0.0215	-0.0012	0.3132	0.1131	0.2001	-1.5507
7	5.07	0.0	0.0034	-1.0072	-0.0153	0.0330	-0.0003	0.3120	0.1250	0.1871	-1.7107
8	9.09	0.0	1.0034	-0.2020	-0.0147	0.0347	0.0023	0.3290	0.1465	0.1826	-1.9547
9	13.75	0.0	2.7652	-0.7030	-0.0151	0.0410	0.0003	0.3066	0.1716	0.1746	-2.1000
10	17.83	0.0	3.4400	-0.0473	-0.0100	0.0307	0.0100	0.3039	0.2000	0.1379	-2.1215
11	19.84	0.0	0.0033	-0.0050	0.0000	0.0119	0.0136	0.3003	0.2200	0.1159	-2.0961
12	25.00	0.0	0.1000	-0.0370	0.0074	-0.1100	0.0200	0.3290	0.2900	0.0310	-2.0074
13	27.29	0.0	0.0007	-0.0000	0.0000	-0.2207	0.0072	0.3000	0.3237	-0.0147	-1.9500

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME R110-A PFI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2	106	0.05	2.5	0.0	H370F32	0.0	0	0	0	0	0	FREE
POINT	ALPHA	BETA	CX1	CX1	CX1	YCPF1	YCPF1	CX2	CX2	CX2	YCPF2	YCPF2
1	-1.44	0.0	0.0025	0.0003	-0.0004	0.1216	-0.38031	-0.00188	-0.00066	-0.0108	0.3511	-0.5755
2	-0.47	0.0	0.0	0.0	-0.0000	0.0	-0.0009	0.0029	0.0008	-0.0024	0.2759	-0.9828
3	0.57	0.0	0.0012	-0.0004	-0.0013	-0.0736	-1.0986	0.0246	-0.0080	0.0055	0.3232	0.7220
4	1.57	0.0	0.0014	0.0	-0.0107	0.0	-0.5389	0.0472	0.0146	0.0154	0.3093	0.3256
5	2.59	0.0	0.0004	-0.0003	-0.0003	-1.2692	-2.2308	0.1746	0.0224	0.0263	0.2959	0.3534
6	3.60	0.0	-0.0004	-0.0005	-0.0004	0.5667	5.9667	0.1046	0.0740	0.0395	0.2770	0.3771
7	5.67	0.0	-0.0001	-0.0007	-0.0006	2.3365	2.5662	0.1797	0.0437	0.0732	0.2432	0.4076
8	9.64	0.0	0.0015	-0.0006	-0.0007	-1.4355	-21.7047	0.3500	0.0650	0.1524	0.1859	0.4356
9	13.75	0.0	-0.0007	-0.0005	-0.0005	0.0143	7.8000	0.5602	0.0748	0.2418	0.1335	0.4389
10	17.83	0.0	-0.0037	-0.0015	-0.0012	0.4450	0.3406	0.7738	0.0904	0.3366	0.1173	0.4350
11	19.89	0.0	-0.0027	-0.0025	-0.0001	0.4508	2.7627	0.6697	0.0994	0.3749	0.1143	0.4311
12	25.00	0.0	0.0009	-0.0002	-0.0002	-0.2074	-0.0232	1.0584	0.1084	0.4454	0.1024	0.4207
13	27.29	0.0	0.0248	-0.0015	0.0147	-0.0445	0.5805	1.1342	0.1087	0.4742	0.0954	0.4181



ARSDW ENGINEERING DEVELOPMENT CENTER (AEC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH PKTC-0 PM1 . CUSE L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2	106	0.65	2.5	0.0	M3.0F32	0.0	0	0	0	0	0	FREE
POINT	ALPHA	BETA	CPX3	CM3	CM3	XCPF3	YCPF3	CM4	CM4	CM4	XCPF4	YCPF4
1	-1.64	0.0	-0.0055	-0.0000	0.0000	0.0075	-0.0550	-0.0185	-0.0171	-0.0119	0.3432	0.6416
2	-0.47	0.0	-0.0057	-0.0000	0.0000	0.1030	-0.0694	0.0033	0.0008	-0.0030	0.2319	-0.9096
3	0.57	0.0	-0.0041	-0.0002	-0.0002	-0.0570	0.0023	0.0244	0.0083	-0.0074	0.3411	0.3034
4	1.57	0.0	-0.0057	-0.0000	-0.0000	0.0363	0.0070	0.0064	0.0154	0.0175	0.3313	0.3773
5	2.54	0.0	-0.0054	-0.0000	-0.0000	0.0298	0.0335	0.0711	0.0226	0.0292	0.3188	0.4116
6	3.60	0.0	-0.0040	-0.0001	-0.0005	-0.0307	0.1031	0.0497	0.0300	0.0470	0.3008	0.4292
7	4.67	0.0	-0.0040	-0.0002	-0.0004	-0.0412	0.0763	0.1714	0.0436	0.0811	0.2556	0.4728
8	6.64	0.0	-0.0037	-0.0007	-0.0007	0.0408	-0.0842	1.3337	0.0644	0.1647	0.1930	0.4995
9	13.75	0.0	-0.0044	-0.0005	-0.0003	-0.0463	0.0413	0.5362	0.0705	0.2685	0.1315	0.5889
10	17.83	0.0	-0.0075	-0.0007	0.0011	0.0040	-0.1455	0.7378	0.0454	0.3690	0.1158	0.5981
11	19.84	0.0	-0.0044	-0.0000	0.0010	0.0757	-0.1142	0.6281	0.0940	0.4109	0.1135	0.4962
12	25.08	0.0	-0.0044	-0.0002	0.0024	0.0373	-0.4486	1.0194	0.1056	0.4925	0.1036	0.4831
13	27.29	0.0	-0.0047	-0.0001	0.0030	-0.0120	-0.5353	1.6967	0.1047	0.5258	0.1001	0.4794

TEST PART: AL-RR10-A FRI. COVE 1 WEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 107 0.02 2.5 0.0 43-0F32 0.0 0 0 0 0 FREE

POINT	ALPHA	MFA	CN	CLN	CV	CLN	CLL	CA	CAN	CAF	XCP
1	-1.00	0.0	-0.1301	-0.0025	-0.0166	0.0123	-0.0029	0.3032	0.1151	0.2261	-0.0683
2	-0.47	0.0	-0.0204	-0.0007	-0.0161	0.0115	-0.0020	0.3037	0.1121	0.2317	2.0770
3	0.57	0.0	0.0300	0.0121	0.0170	0.0121	-0.0022	0.3065	0.1131	0.2330	-1.9376
4	1.57	0.0	0.2200	0.0407	0.0122	0.0102	-0.0022	0.3035	0.1143	0.2292	-1.5488
5	2.00	0.0	0.3500	0.0520	0.0120	0.0170	-0.0029	0.3069	0.1133	0.2310	-1.4743
6	3.03	0.0	0.4400	0.0700	0.0130	0.0204	-0.0031	0.3021	0.1159	0.2267	-1.5310
7	5.00	0.0	0.5000	0.0800	0.0160	0.0300	-0.0009	0.3376	0.1200	0.2001	-1.7122
8	9.70	0.0	1.7200	0.30175	0.0104	0.0150	0.0053	0.3500	0.1471	0.2119	-1.9805
9	13.73	0.0	2.8230	0.50352	0.0127	0.0300	0.0067	0.3773	0.1817	0.1956	-2.1230
10	17.83	0.0	4.0707	0.7000	0.0023	0.0201	0.0117	0.3701	0.2132	0.1569	-2.1509
11	19.80	0.0	4.7500	0.81330	0.0011	0.0105	0.0163	0.3633	0.2207	0.1626	-2.1297
12	25.13	0.0	0.4202	0.10007	0.0030	0.0707	0.0369	0.3332	0.2810	0.0521	-1.9804
13	27.40	0.0	7.1700	0.8110	0.0037	0.1527	0.0610	0.3112	0.3075	0.0037	-1.8967

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

SHEET 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

TEST FART PALM RUN-6												
2 107 0.92 2.5			PM1 CMF 1			DEL1 DEL2 DEL3 DEL4			TRANSITION			
			0.0 4326F32 0.0			0 0 0 0			FREE			
POINT	ALPHA	BETA	CMF1	CM1	CM2	XCMF1	YCPF1	CMF2	CM2	CM2	XCPF2	YCPF2
1	-1.48	0.0	-0.0007	-0.0001	-0.0037	0.0005	5.5352	-0.0174	-0.0067	-0.0112	0.3852	0.6635
2	-0.57	0.0	-0.0001	-0.0002	-0.0006	1.3333	5.2900	0.0024	0.0006	-0.0020	0.2585	-0.8686
3	0.57	0.0	0.0001	-0.0003	-0.0046	-5.2600	-92.3999	0.0257	0.0006	0.0053	0.3333	0.2075
4	1.57	0.0	0.0013	-0.0001	-0.0047	-0.1637	-3.4815	0.0484	0.0156	0.0158	0.3225	0.3271
5	2.62	0.0	-0.0003	-0.0006	-0.0007	1.2903	2.3226	0.0754	0.0234	0.0256	0.3092	0.3386
6	3.63	0.0	-0.0014	-0.0007	-0.0039	0.4091	2.2273	0.1063	0.0306	0.0396	0.2674	0.3721
7	5.68	0.0	-0.0004	-0.0004	-0.0007	0.3112	1.6608	0.1624	0.0460	0.0726	0.2522	0.3078
8	9.76	0.0	-0.0017	-0.0016	-0.0056	1.3008	4.0406	0.3620	0.0664	0.1509	0.1890	0.4276
9	13.73	0.0	-0.0002	-0.0009	-0.0007	4.1366	3.4091	0.5756	0.0770	0.2455	0.1338	0.4265
10	17.93	0.0	-0.0004	-0.0016	-0.0007	3.2704	1.3750	0.8047	0.0491	0.3447	0.1108	0.4287
11	19.88	0.0	-0.0004	-0.0023	-0.0052	1.0377	2.5654	0.9096	0.0967	0.3292	0.1063	0.4278
12	25.13	0.0	0.0004	-0.0037	0.0004	-0.4256	0.9837	1.1060	0.1046	0.4627	0.0946	0.4184
13	27.44	0.0	0.0004	-0.0037	0.0004	-0.4256	0.9837	1.1060	0.1046	0.4627	0.0946	0.4184

ARMED ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST CASE NAME			PHI	CONE	DEL1	DEL2	DEL3	DEL4	TRANSITION			
2	107	0.0 2.5	0.0	0.3-0F32	0.0	0	0	0	FREE			
POINT	ALPHA	BETA	CMF3	CM3	CM3	YCPF3	YCPF3	CMF4	CM4	CM4	YCPF4	YCPF4
1	-1.00	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
2	-0.47	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
3	0.57	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
4	1.57	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
5	2.60	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
6	3.63	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
7	5.58	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
8	9.70	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
9	13.73	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
10	17.43	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
11	19.00	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
12	25.13	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
13	27.60	0.0	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000

AERONAUTICAL ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION AND TUNNEL FACILITY (PT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST	PORT	FACE	PRIC	PHI	CONF	L	CELL	DEL2	DEL3	DEL4	TRANSITION
2	10K	0.00	2.5	0.0	03-0F32	0.0	0	0	0	0	FREE
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	CA	CAB	CAF	XCP
1	-1.45	0.0	-0.1372	0.0701	-0.0201	0.0121	-0.0036	0.0019	0.1309	0.2709	-0.5114
2	-0.44	0.0	-0.0145	-0.0070	-0.0015	0.0124	-0.0031	0.0024	0.1294	0.2710	-0.6637
3	0.50	0.0	0.1255	-0.0214	-0.0167	0.0151	-0.0040	0.0087	0.1252	0.2735	-2.0310
4	1.50	0.0	0.2242	-0.0370	-0.0124	0.0146	-0.0035	0.0023	0.1238	0.2745	-1.6573
5	2.61	0.0	0.3715	-0.0503	-0.0101	0.0211	-0.0038	0.0002	0.1216	0.2724	-1.5738
6	3.63	0.0	0.5044	-0.0604	-0.0194	0.0291	-0.0045	0.0043	0.1259	0.2745	-1.6410
7	5.43	0.0	0.6521	-0.0747	-0.0132	0.0224	-0.0017	0.0049	0.1414	0.2635	-1.7900
8	9.49	0.0	1.0477	-0.0755	-0.0170	0.0315	0.0029	0.4351	0.1665	0.2686	-2.0861
9	13.74	0.0	2.0723	-0.0657	-0.0079	0.0102	0.0145	0.0316	0.1899	0.2417	-2.1722
10	17.47	0.0	4.2477	-0.0194	-0.0134	0.0349	0.0133	0.0432	0.2396	0.2036	-2.1650
11	19.33	0.0	6.4345	-0.0487	-0.0006	0.0215	0.0155	0.4353	0.2811	0.1502	-2.1267
12	25.20	0.0	0.0000	-13.3627	0.0415	-0.0659	0.0305	0.0070	0.3129	0.0941	-1.9400
13	27.55	0.0	7.7114	-14.1203	0.0000	-0.0576	0.0305	0.3787	0.3296	0.0491	-1.8209

ARMED ENGINEERING DEVELOPMENT CENTER (AEC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST NAME: BALM RAIL-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
2 100 0.40 2.0 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CONF1	CONF2	CONF3	XCPF1	YCPF1	CONF2	CONF3	CONF4	XCPF2	YCPF2
1	-1.00	0.0	-0.0000	-0.0000	-0.0000	-0.2173	-1.2030	-0.0179	-0.0000	-0.0116	0.3876	0.6458
2	-1.00	0.0	-0.0011	-0.0001	-0.0014	-0.0727	-1.4727	0.0937	0.0000	-0.0025	0.2213	-0.0940
3	-1.00	0.0	-0.0017	-0.0007	-0.0000	-0.0055	-0.3296	-0.0260	0.0000	-0.0050	0.3070	0.1038
4	-1.00	0.0	-0.0017	-0.0000	-0.0000	0.5749	0.8793	0.0521	0.0157	0.0156	0.3006	0.3000
5	-1.00	0.0	-0.0022	-0.0006	-0.0000	0.3453	0.1614	0.0747	0.0243	0.0264	0.2926	0.3313
6	-1.00	0.0	-0.0015	-0.0007	-0.0000	0.4933	0.4400	0.1147	0.0710	0.0414	0.2699	0.3613
7	-1.00	0.0	-0.0020	-0.0004	-0.0000	0.4004	0.3873	0.1917	0.0462	0.0770	0.2610	0.4017
8	-1.00	0.0	0.0003	-0.0000	-0.0000	-2.5000	-0.1875	0.3920	0.0649	0.1662	0.1784	0.4239
9	-1.00	0.0	0.0014	-0.0022	-0.0042	-1.1178	0.2673	0.0019	0.0767	0.2535	0.1270	0.4212
10	-1.00	0.0	-0.0004	-0.0022	-0.0004	0.7751	0.1744	0.0135	0.0405	0.3458	0.0949	0.4250
11	-1.00	0.0	-0.0004	-0.0014	-0.0031	0.6162	0.5311	0.5192	0.0837	0.3867	0.0918	0.4229
12	-1.00	0.0	0.0013	-0.0024	0.0044	-0.1434	0.3430	1.1724	0.0827	0.4958	0.0706	0.4229
13	-1.00	0.0	0.0000	-0.0024	0.0044	-0.2616	0.6554	1.2454	0.0908	0.5242	0.0724	0.4208

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME PWTF-6 PWTF COEF L DEL1 DEL2 DEL3 DEL4 TRANSITION												
2	104	0.46	2.5	0.0	0.30	0.32	0.0	0	0	0	0	FREE
POINT	ALPHA	BETA	CMF3	CM3	CM3	YCPF3	YCPF3	CMF4	CM4	CM4	YCPF4	YCPF4
1	-1.89	0.0	-0.0051	-0.0000	-0.0013	0.1145	0.2629	-0.0173	-0.0074	-0.0114	0.4298	0.6580
2	-0.84	0.0	-0.0032	0.0001	-0.0015	-0.0348	0.5177	0.0058	0.0010	-0.0022	0.1771	-0.3802
3	0.56	0.0	-0.0002	-0.0000	-0.0008	0.0046	0.2018	0.0266	0.0087	0.0074	0.3273	0.2778
4	1.58	0.0	-0.0013	0.0011	-0.0019	-0.0308	1.4769	0.0496	0.0162	0.0169	0.3269	0.3010
5	2.61	0.0	-0.0030	0.0000	-0.0000	-0.0026	0.1698	0.0754	0.0239	0.0308	0.3171	0.4082
6	3.63	0.0	-0.0033	0.0002	-0.0024	-0.0549	0.7256	0.1077	0.0310	0.0459	0.2949	0.4262
7	5.63	0.0	-0.0044	-0.0002	-0.0003	-0.0347	0.0662	0.1835	0.0471	0.0850	0.2567	0.4433
8	9.69	0.0	-0.0030	-0.0000	-0.0006	0.0641	0.1109	0.3777	0.0708	0.1640	0.1875	0.4672
9	13.76	0.0	-0.0042	0.0005	-0.0000	-0.1106	0.1012	0.5872	0.0873	0.2673	0.1466	0.4892
10	17.87	0.0	-0.0070	-0.0000	0.0000	0.0665	-0.0538	0.7835	0.0790	0.3784	0.1008	0.4829
11	19.93	0.0	-0.0076	-0.0005	0.0025	0.0628	-0.3272	0.8458	0.0814	0.4260	0.0919	0.4888
12	25.70	0.0	-0.0073	-0.0003	0.0025	0.0477	-0.3793	1.1209	0.0797	0.5375	0.0711	0.4795
13	27.55	0.0	-0.0073	-0.0000	0.0032	0.0233	-0.4362	1.2018	0.0847	0.5726	0.0705	0.4764

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME RAI=6 PMI CUNE 1 CEL1 CEL2 DEL3 DEL4 TRANSITION  
 2 104 1.10 2.5 0.0 0340F32 0.0 0 0 0 0 FREE

POINT	ALPHA	ETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	KCP
1	-1.51	0.0	-0.1554	-0.0744	-0.0145	-0.0042	-0.0047	0.0006	0.2121	0.3845	-0.5028
2	-0.00	0.0	-0.0007	-0.0007	-0.0163	-0.0070	-0.0054	0.0010	0.2124	0.3842	-0.1547
3	0.50	0.0	0.1113	-0.2524	-0.0163	-0.0010	-0.0050	0.5996	0.2127	0.3799	-2.3507
4	1.57	0.0	0.2435	-0.4544	-0.0170	0.0004	-0.0046	0.5974	0.2194	0.3779	-1.8671
5	2.52	0.0	0.3314	-0.6072	-0.0224	0.0235	-0.0040	0.5946	0.2204	0.3702	-1.6969
6	3.62	0.0	0.5554	-0.7520	-0.0187	0.0256	-0.0051	0.5920	0.2704	0.3712	-1.7328
7	5.05	0.0	0.4200	-1.7315	-0.0042	0.0338	-0.0041	0.5965	0.2302	0.3663	-1.8683
8	6.72	0.0	1.0055	-3.0457	-0.0142	0.0210	0.0011	0.6254	0.2563	0.3694	-2.0638
9	13.77	0.0	2.4641	-6.2444	-0.0072	0.0049	0.0076	0.6304	0.2735	0.3523	-2.1084
10	17.44	0.0	0.1901	-0.5021	-0.0222	0.0544	0.0124	0.6367	0.3039	0.3328	-2.0529
11	20.04	0.0	0.0232	-0.5731	-0.0040	0.0406	0.0179	0.6217	0.3130	0.3087	-1.9415
12	25.04	0.0	0.0435	-11.0062	0.0292	-0.0020	0.0239	0.5078	0.3449	0.2429	-1.7147
13	27.87	0.0	7.5001	-12.5001	0.0147	0.0001	0.0152	0.5589	0.3504	0.2063	-1.5862



ARLUND ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME SX13-6 PWT CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
 2 109 1.10 2.5 0.0 630F32 0.0 0 0 0 0 FREE

POINT	ALPHA	ETA	CNF1	CM1	CL1	XCPF1	YCPF1	CNF2	CM2	CL2	XCPF2	YCPF2
1	-1.51	0.0	-0.0013	-0.0013	-0.0013	0.0053	14.9375	-0.0169	-0.0009	-0.0113	0.3671	0.5966
2	-0.48	0.0	-0.0005	-0.0005	-0.0005	0.0305	3.4407	0.0032	0.0002	-0.0014	0.0726	-0.4479
3	0.56	0.0	0.0001	0.0001	0.0001	-5.7500	-71.0000	0.0205	0.0072	0.0071	0.2533	0.2681
4	1.57	0.0	0.0009	0.0009	0.0009	-0.0289	-10.8444	0.0536	0.0140	0.0179	0.2608	0.3340
5	2.60	0.0	-0.0014	0.0001	-0.0001	-0.0007	5.7619	0.0007	0.0214	0.0287	0.2700	0.3560
6	3.62	0.0	-0.0010	0.0001	-0.0004	-0.0673	9.0769	0.1158	0.0204	0.0439	0.2450	0.3789
7	5.65	0.0	-0.0012	0.0001	-0.0003	-0.0230	11.8391	0.1964	0.0406	0.0768	0.2069	0.4011
8	9.72	0.0	-0.0015	0.0011	-0.0017	0.7366	1.1184	0.3060	0.0496	0.1663	0.1544	0.4309
9	13.77	0.0	0.0014	0.0011	-0.0015	-0.4320	-1.4951	0.5913	0.0706	-0.2549	0.1194	0.4311
10	17.94	0.0	-0.0015	-0.0014	-0.0014	0.9124	3.9066	0.7802	0.0674	0.3325	0.0864	0.4262
11	20.04	0.0	-0.0010	-0.0011	-0.0003	1.1132	2.7358	0.8671	0.0594	0.3654	0.0801	0.4226
12	25.46	0.0	0.0039	-0.0030	0.0000	-0.9115	0.0124	1.0935	0.0666	0.4596	0.0603	0.4203
13	27.87	0.0	-0.0005	-0.0024	-0.0023	0.4255	0.4331	1.1597	0.0661	0.4853	0.0570	0.4184

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 3 OF 3

NANTIV MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART 2-6-210-6 PWT CONF 1 DEL1 DEL2 DEL3 DEL4 TRANSITION

2 109 1.10 2.0 0.0 03.0F32 0.0 0 0 0 0 FREE

POINT	ALPHA	FFY4	CF3	CH3	CH3 *	ACPF3	YCPF3	C+P4	* CH4	CH4	XCPF4	YCPF4
1	-1.51	0.0	-0.0044	-0.0001	0.0007	0.2310	-0.1001	-0.0149	-0.0079	-0.0131	0.0203	0.6920
2	-0.60	0.0	-0.0039	-0.0000	0.0000	0.1900	-0.0895	0.0020	0.0003	-0.0039	0.1400	-1.6310
3	0.50	0.0	-0.0000	-0.0000	0.0000	0.1000	-0.0000	0.0000	0.0000	0.0000	0.2070	-0.2310
4	1.57	0.0	-0.0000	-0.0000	0.0000	0.1300	-0.0000	0.0000	0.0000	0.0000	0.2000	0.3300
5	2.00	0.0	-0.0000	-0.0000	0.0000	0.1370	-0.0000	0.0000	0.0000	0.0000	0.2000	0.3000
6	3.02	0.0	-0.0000	-0.0000	0.0000	0.1400	-0.0000	0.0000	0.0000	0.0000	0.2000	0.2200
7	4.05	0.0	-0.0000	-0.0000	0.0000	0.1410	-0.0000	0.0000	0.0000	0.0000	0.2000	0.2500
8	5.07	0.0	-0.0000	-0.0000	0.0000	0.1410	-0.0000	0.0000	0.0000	0.0000	0.2000	0.2500
9	6.07	0.0	-0.0000	-0.0000	0.0000	0.1410	-0.0000	0.0000	0.0000	0.0000	0.2000	0.2500
10	7.07	0.0	-0.0000	-0.0000	0.0000	0.1410	-0.0000	0.0000	0.0000	0.0000	0.2000	0.2500
11	8.07	0.0	-0.0000	-0.0000	0.0000	0.1410	-0.0000	0.0000	0.0000	0.0000	0.2000	0.2500
12	9.07	0.0	-0.0000	-0.0000	0.0000	0.1410	-0.0000	0.0000	0.0000	0.0000	0.2000	0.2500
13	10.07	0.0	-0.0000	-0.0000	0.0000	0.1410	-0.0000	0.0000	0.0000	0.0000	0.2000	0.2500

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PNT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PAWT MACH BRK-6				CONF	DEL1	DEL2	DEL3	DEL4	TRANSITION		
2 110 1.20 2.5				3.0 53-0F32 0.0	0	0	0	0	FREE		
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAR	CAF	ACP
1	-1.51	0.0	-0.1434	-0.1347	-0.0354	-0.0455	-0.0038	0.5429	0.2033	0.3597	-0.2443
2	-0.44	0.0	-0.0077	-0.1442	-0.0354	0.0954	-0.0050	0.5473	0.1991	0.3441	17.4154
3	0.57	0.0	0.1321	-0.3214	-0.0353	0.0949	-0.0044	0.5497	0.1954	0.3903	-2.4335
4	1.55	0.0	0.2714	-0.5274	-0.0324	0.0923	-0.0054	0.5906	0.2952	0.3454	-1.9447
5	2.52	0.0	0.4132	-0.7414	-0.0330	0.0951	-0.0035	0.5892	0.2057	0.3835	-1.7935
6	3.64	0.0	0.5774	-1.0241	-0.0325	0.1024	-0.0037	0.5872	0.2064	0.3608	-1.7747
7	4.04	0.0	0.4454	-1.2664	-0.0301	0.1024	-0.0044	0.5467	0.2073	0.3895	-1.8247
8	4.76	0.0	1.4444	-3.0541	-0.0244	0.0944	0.0006	0.5314	0.2392	0.3972	-1.9699
9	13.36	0.0	2.9294	-5.4007	-0.0157	0.0734	0.0044	0.6290	0.2556	0.3732	-1.9825
10	14.05	0.0	4.2134	-7.4563	-0.0044	0.0574	0.0093	0.6143	0.2721	0.3427	-1.8630
11	20.27	0.0	5.0144	-9.6162	0.0133	0.0145	0.0174	0.6045	0.2773	0.3372	-1.7195
12	25.42	0.0	7.0737	-10.3911	0.0534	-0.0344	0.0274	0.5766	0.3001	0.2765	-1.4696
13	28.14	0.0	8.4421	-11.0355	0.1243	-0.1444	0.0312	0.5630	0.3120	0.2510	-1.3785

ARLUT ENGINEERING DEVELOPMENT CENTER (AFDC)

PROPULSION AND TUNNEL FACILITY (PTF)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME RELU-8												
2	110	1.25	2.5	CM1	CM2	CM3	DEL1	DEL2	DEL3	DEL4	TRANSITION	
				0.0	0.3	0.0	0.0	0.0	0.0	0.0	FREE	
POINT	ALPHA	BETA	CM1	CM2	CM3	ACPF1	YCPF1	CM2	CM3	CM4	XCPF2	YCPF2
1	-1.51	0.0	-0.0000	0.0000	-0.0000	-0.0000	1.7000	-0.0000	-0.0000	-0.0000	0.0000	0.0000
2	-0.44	0.0	-0.0000	0.0000	-0.0000	-0.0000	0.9000	0.0000	-0.0000	-0.0000	-0.0000	-0.0000
3	0.57	0.0	-0.0000	0.0000	-0.0000	-0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	1.55	0.0	-0.0000	0.0000	-0.0000	-0.0000	2.1200	0.0000	0.0000	0.0000	0.0000	0.0000
5	2.62	0.0	-0.0000	0.0000	-0.0000	-0.0000	1.3000	0.0000	0.0000	0.0000	0.0000	0.0000
6	3.00	0.0	-0.0000	0.0000	-0.0000	-0.0000	1.5100	0.0000	0.0000	0.0000	0.0000	0.0000
7	5.00	0.0	-0.0000	0.0000	-0.0000	-0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8	9.70	0.0	-0.0000	0.0000	-0.0000	-0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9	13.00	0.0	-0.0000	0.0000	-0.0000	-0.0000	1.1500	0.0000	0.0000	0.0000	0.0000	0.0000
10	19.05	0.0	-0.0000	0.0000	-0.0000	-0.0000	1.5500	0.0000	0.0000	0.0000	0.0000	0.0000
11	20.27	0.0	-0.0000	0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	25.02	0.0	-0.0000	0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	20.16	0.0	-0.0000	0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART - C-4 BX10-A				PHI	CONE	L	DEL1	DEL2	DEL3	DEL4	TRANSITION		
2	110	1.20	2.5	0.0	34.0F32	0.0	0	0	0	0	FREE		
POINT	ALPHA	HFA	CNF3	CN3	CH3	XCPF3	YCPF3	CXF4	CN4	CH4	XCPF4	YCPF4	
1	-1.51	0.0	-0.0001	0.0001	0.0003	0.0111	-0.1123	-0.0144	-0.0097	-0.0130	0.5302	0.7102	
2	-0.64	0.0	-0.0005	0.0005	0.0003	-0.0725	-0.0423	0.0052	-0.0020	-0.0035	-0.3886	-0.4610	
3	0.57	0.0	-0.0002	0.0005	0.0001	-0.0430	-0.0224	0.0291	0.0055	0.0070	0.1474	0.2416	
4	1.55	0.0	-0.0002	0.0005	0.0005	-0.0442	-0.0616	0.0541	0.0115	0.0196	0.2119	0.3624	
5	2.62	0.0	-0.0003	0.0006	0.0006	-0.0569	-0.0635	0.0422	0.0166	0.0318	0.2239	0.3868	
6	3.64	0.0	-0.0005	0.0012	0.0002	-0.0762	-0.0535	0.1144	0.0248	0.0476	0.2165	0.4161	
7	5.64	0.0	-0.0007	0.0014	0.0014	-0.0393	-0.2359	0.1670	0.0361	0.0836	0.1432	0.4473	
8	9.74	0.0	-0.0077	0.0003	0.0027	0.0456	-0.3804	0.3595	0.0535	0.1711	0.1487	0.4760	
9	13.86	0.0	-0.0084	0.0005	0.0019	-0.1426	-0.4716	0.5464	0.0623	0.2623	0.1139	0.4797	
10	18.05	0.0	-0.0081	0.0001	0.0031	-0.0147	-0.5016	0.7294	0.0706	0.3489	0.0968	0.4784	
11	22.27	0.0	-0.0051	0.0004	0.0034	-0.0584	-0.5854	0.8027	0.0629	0.3798	0.0783	0.4731	
12	25.42	0.0	-0.0071	0.0004	0.0045	-0.0475	-0.6794	0.9484	0.0605	0.4666	0.0612	0.4721	
13	29.14	0.0	-0.0067	0.0005	0.0053	-0.1049	-1.1942	1.0434	0.0603	0.4687	0.0578	0.4684	

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 3

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST NAME: PWT-RA10-6 PWT CASE 1 DEL1 DEL2 DEL3 DEL4 TRANSITION

2. 111 1.30 2.5 0.0 0.300F32 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CLB	CAF	XCP
1	-1.00	0.0	-0.1736	0.2260	0.0010	-0.0010	0.0055	0.5659	0.2081	0.3578	-1.2915
2	-0.40	0.0	-0.0905	0.0604	0.0003	-0.0003	-0.0053	0.5629	0.2073	0.3555	-1.3750
3	0.50	0.0	0.0012	-0.0029	0.0051	-0.0051	-0.0054	0.5625	0.2071	0.3555	-1.1435
4	1.50	0.0	0.2105	-0.2720	0.0057	-0.0057	-0.0031	0.5625	0.2059	0.3567	-1.2583
5	2.50	0.0	0.3055	-0.3981	0.0033	-0.0033	-0.0029	0.5617	0.2060	0.3550	-1.3572
6	3.50	0.0	0.4249	-0.7705	0.0002	-0.0002	-0.0016	0.5607	0.2060	0.3539	-1.4615
7	5.50	0.0	0.5941	-1.6655	0.0070	-0.0070	-0.0005	0.5577	0.2136	0.3611	-1.6259
8	7.50	0.0	1.7043	-3.2551	0.0009	-0.0009	0.0021	0.6057	0.2363	0.3693	-1.8203
9	10.02	0.0	3.0012	-0.5100	0.0130	-0.0130	0.0059	0.6065	0.2442	0.3603	-1.8091
10	14.16	0.0	4.1711	-7.0326	0.0100	-0.0100	0.0110	0.5971	0.2575	0.3396	-1.6660
11	20.36	0.0	6.5002	-7.0603	0.0107	-0.0107	0.0130	0.5942	0.2627	0.3315	-1.5821
12	25.95	0.0	7.0334	-4.5501	0.0374	-0.0374	0.0100	0.6022	0.2973	0.3049	-1.3586
13	28.30	0.0	8.0553	-1.3515	0.0553	-0.0553	0.0261	0.6055	0.3296	0.2762	-1.2931

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 2 OF 3

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART MACH. REIM-6												
2 111 1.30 2.5 0.0 0.3 0.6 32 0.0 0 0 0 0 FREE												
POINT	ALPHA	BETA	CNF1	CW1	CH1	XCPF1	YCPF1	CNF2	CW2	CH2	XCPF2	YCPF2
1	-1.04	0.0	0.0020	0.0005	-0.0003	0.1070	-2.3969	-0.0225	-0.0050	-0.0125	0.2100	0.5532
2	-3.46	0.0	0.0034	0.0005	-0.0053	0.1345	-1.6140	0.0010	0.0012	-0.0034	1.1923	-3.2885
3	0.56	0.0	0.0027	0.0000	-0.0121	0.0145	-0.7704	0.0243	0.0075	0.0054	0.3101	0.2218
4	1.56	0.0	0.0019	-0.0003	-0.0047	-0.2950	-4.2500	0.0504	0.0142	0.0150	0.2425	0.2981
5	2.60	0.0	0.0014	-0.0005	-0.0016	-1.2927	-3.8049	0.0785	0.0203	0.0242	0.2594	0.3343
6	3.64	0.0	0.0004	-0.0004	-0.0045	-4.5172	-5.7249	0.1114	0.0267	0.0410	0.2390	0.3670
7	5.64	0.0	-0.0013	-0.0003	-0.0044	-3.0747	3.8847	0.1634	0.0379	0.0715	0.2047	0.3897
8	9.76	0.0	0.0027	-0.0005	-0.0073	-3.2916	-0.9476	0.3521	0.0525	0.1469	0.1491	0.4172
9	14.02	0.0	0.0021	-0.0013	-0.0015	-3.8833	-0.7177	0.5329	0.0597	0.2247	0.1121	0.4217
10	18.18	0.0	0.0025	-0.0015	0.0015	-2.6135	0.6056	0.7045	0.0407	0.2952	0.0862	0.4199
11	20.36	0.0	-0.0021	-0.0021	-0.0051	0.0353	1.0158	0.7866	0.0597	0.3291	0.0759	0.4184
12	25.95	0.0	-0.0057	-0.0012	-0.0073	0.2074	1.2467	0.9415	0.0587	0.3950	0.0623	0.4196
13	26.36	0.0	0.0049	0.0007	0.0026	2.0704	0.3263	1.0126	0.0575	0.4238	0.0567	0.4184

ARNOLD ENGINEERING DEVELOPMENT CENTER (AFMPC)

PROPELLSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 3 OF 3

ALTIMISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: 2110-6 PWT CINE 1 DEL1 DEL2 DEL3 DEL4 TRANSITION  
2 111 1.36 2.5 0.0 0.300F32 0.0 0 0 0 0 FREE

POINT	ALPHA	BETA	CNF3	C-3	C-3	XCPF3	YCPF3	CNF4	C-4	C-4	XCPF4	YCPF4
1	-1.04	0.0	-0.0025	-0.0011	0.0034	0.2163	-1.3651	-0.0023	-0.0061	-0.0161	0.2658	0.6965
2	-0.46	0.0	-0.0010	-0.0012	0.0025	1.2121	-2.5253	0.0007	0.0010	-0.0062	1.3562	-0.5205
3	0.56	0.0	-0.0016	-0.0014	0.0023	0.9261	-1.6083	0.0267	0.0076	0.0039	0.3176	0.1573
4	1.56	0.0	-0.0006	-0.0004	0.0015	2.1653	-7.0421	0.0489	0.0140	0.0156	0.2458	0.3189
5	2.60	0.0	-0.0011	-0.0005	0.0021	6.6173	-2.5556	0.0759	0.0146	0.0266	0.2587	0.3774
6	3.64	0.0	-0.0015	-0.0005	0.0020	0.2967	-1.2957	0.1085	0.0255	0.0438	0.2367	0.4039
7	5.64	0.0	-0.0017	-0.0007	0.0025	0.2560	-0.8729	0.1760	0.1362	0.0742	0.2036	0.4448
8	9.76	0.0	-0.0045	-0.0011	0.0031	0.2161	-0.6916	0.3393	0.0509	0.1593	0.1500	0.4695
9	14.02	0.0	-0.0057	-0.0022	0.0030	0.0353	-0.5863	0.5132	0.0590	0.2430	0.1169	0.4736
10	18.18	0.0	-0.0052	0.0003	0.0027	-0.0535	-0.5154	0.6794	0.0607	0.3200	0.0893	0.4710
11	20.36	0.0	-0.0046	0.0006	0.0042	-0.1735	-0.6891	0.7590	0.0587	0.3564	0.0774	0.4696
12	25.95	0.0	-0.0050	-0.0004	0.0051	0.0040	-1.0159	0.9160	0.0561	0.4315	0.0612	0.4710
13	28.36	0.0	-0.0049	0.0004	0.0053	-0.0437	-1.1559	0.9806	0.0554	0.4556	0.0555	0.4649



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION

2 123 0.80 2.5 F14 FREE

POINT	ALPHA	C <sub>M</sub>	C <sub>N</sub>	C <sub>Y</sub>	XCPY	YCPY
1	-2.03	-0.0465	0.0019	-0.0231	-0.0293	0.4933
2	-1.00	-0.0242	0.0011	-0.0130	-0.0451	0.5373
3	-0.02	-0.0032	-0.0006	-0.0059	0.1963	1.5691
4	1.00	0.0146	-0.0005	0.0060	-0.0312	0.4043
5	2.03	0.0495	0.0005	0.0194	0.0173	0.8573
6	2.98	0.0531	-0.0005	0.0204	-0.0094	0.4964
7	4.03	0.0773	-0.0007	0.0383	-0.0095	0.4959
8	6.06	0.1353	-0.0014	0.0623	-0.0100	0.4603
9	8.06	0.2007	-0.0019	0.0674	-0.0093	0.4353
10	10.05	0.2686	-0.0027	0.1152	-0.0100	0.4290
11	12.04	0.3484	-0.0049	0.1391	-0.0139	0.3965
12	14.06	0.4263	-0.0052	0.1633	-0.0122	0.3814
13	16.04	0.5236	-0.0044	0.1829	-0.0088	0.3630
14	18.11	0.5822	-0.0037	0.2039	-0.0063	0.3503
15	20.17	0.6701	-0.0039	0.2246	-0.0058	0.3430
16	22.15	0.7625	-0.0015	0.2529	-0.0019	0.3317
17	24.16	0.8496	0.0020	0.2745	0.0024	0.3231
18	26.20	0.9384	0.0044	0.2974	0.0052	0.3167
19	27.21	0.9864	0.0050	0.3192	0.0051	0.3145

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RATIO-6 CONF. TRANSITION

Z 124 G.60 2.5 F14 FREE

POINT	ALPHA	CNF	C <sub>M</sub>	C <sub>M</sub>	ACPF	YCPF
1	28.13	1.0474	0.0064	0.3300	0.0061	0.3149
2	29.15	1.0425	0.0044	0.3421	0.0063	0.3132
3	30.12	1.1246	0.0041	0.3494	0.0072	0.3106
4	31.16	1.1552	0.0107	0.3603	0.0088	0.3119
5	32.14	1.1840	0.0126	0.3670	0.0106	0.3100
6	33.19	1.1662	0.0260	0.3596	0.0168	0.3031
7	34.16	1.1484	0.0357	0.3450	0.0311	0.2918
8	36.13	1.0651	0.0317	0.2672	0.0315	0.2857
9	38.15	1.0054	0.0304	0.2574	0.0306	0.2861
10	40.13	0.9544	-0.0006	0.2911	-0.0007	0.3049
11	42.14	0.9632	-0.0024	0.2951	-0.0029	0.3064
12	44.16	0.9444	-0.0045	0.3043	-0.0046	0.3089
13	46.17	1.0011	-0.0066	0.3049	-0.0068	0.3086
14	48.16	1.0107	-0.0046	0.3136	-0.0069	0.3103
15	50.17	1.0264	-0.0120	0.3191	-0.0117	0.3109
16	52.18	1.0341	-0.0141	0.3249	-0.0136	0.3130
17	54.19	1.0492	-0.0164	0.3305	-0.0156	0.3150
18	56.17	1.0624	-0.0194	0.3357	-0.0182	0.3158
19	57.16	1.0621	-0.0202	0.3369	-0.0190	0.3172

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH 0.10-6 CONE TRANSITION

2 125 0.80 2.5 F16 FNEE

POINT	ALPHA	CNF	CN	CN	XCPF	YCPF
1	58.11	1.0375	-0.0191	0.3305	-0.0186	0.3186
2	59.12	1.0415	-0.0214	0.3324	-0.0209	0.3192
3	60.09	1.0456	-0.0233	0.3342	-0.0223	0.3196
4	61.12	1.0487	-0.0252	0.3376	-0.0241	0.3219
5	62.11	1.0507	-0.0263	0.3401	-0.0260	0.3216
6	63.14	1.0604	-0.0249	0.3416	-0.0282	0.3220
7	64.15	1.0645	-0.0306	0.3450	-0.0249	0.3261
8	66.14	1.0667	-0.0329	0.3484	-0.0308	0.3270
9	69.13	1.0676	-0.0356	0.3516	-0.0331	0.3293
10	70.11	1.0693	-0.0362	0.3537	-0.0350	0.3308
11	72.14	1.0727	-0.0410	0.3560	-0.0382	0.3330
12	74.14	1.0730	-0.0447	0.3601	-0.0413	0.3362
13	76.17	1.0757	-0.0454	0.3672	-0.0446	0.3382
14	78.15	1.0734	-0.0527	0.3724	-0.0482	0.3404
15	80.15	1.1032	-0.0576	0.3780	-0.0522	0.3426
16	82.14	1.1094	-0.0627	0.3415	-0.0505	0.3437
17	84.16	1.1050	-0.0659	0.3450	-0.0596	0.3483
18	86.17	1.0590	-0.0709	0.3444	-0.0645	0.3496
19	87.20	1.0683	-0.0718	0.3624	-0.0659	0.3514

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH P110-6 CONE TRANSITION

2 126 0.60 2.5 F14 FREE

POINT	ALPHA	CNF	CN	CH	XCPF	YCPF
1	90.08	1.0372	-0.0768	0.3078	-0.0741	0.3506
2	91.05	1.0325	-0.0790	0.3074	-0.0766	0.3559
3	92.09	1.0246	-0.0821	0.3058	-0.0802	0.3573
4	93.07	1.0232	-0.0856	0.3057	-0.0836	0.3574
5	94.08	1.0140	-0.0868	0.3074	-0.0856	0.3623
6	96.06	1.0139	-0.0959	0.3069	-0.0945	0.3619
7	98.12	1.0038	-0.1028	0.3071	-0.1024	0.3657
8	100.11	0.9946	-0.1090	0.3066	-0.1090	0.3688
9	102.12	0.9985	-0.1154	0.3069	-0.1165	0.3675
10	104.08	0.9938	-0.1204	0.3081	-0.1211	0.3704
11	106.11	0.9944	-0.1256	0.3052	-0.1263	0.3683
12	108.10	0.9911	-0.1293	0.3069	-0.1305	0.3702
13	110.11	0.9816	-0.1314	0.3069	-0.1339	0.3717
14	112.10	0.9859	-0.1357	0.3049	-0.1372	0.3701
15	114.12	0.9778	-0.1369	0.3009	-0.1400	0.3691
16	116.11	0.9770	-0.1379	0.3036	-0.1411	0.3722
17	117.13	0.9717	-0.1383	0.3081	-0.1424	0.3686

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(A7)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RATIO=0. CONF. TRANSITION

2 127 0.60 2.5 F14 FREE

POINT	ALPHA	CNF	CN	C <sub>N</sub>	KCPF	YCPF
1	118.02	0.4562	-0.1477	0.3526	-0.1440	0.3688
2	119.05	0.4546	-0.1486	0.3504	-0.1452	0.3670
3	120.03	0.4523	-0.1383	0.3479	-0.1456	0.3656
4	121.06	0.4434	-0.1377	0.3455	-0.1459	0.3660
5	122.05	0.4385	-0.1375	0.3431	-0.1464	0.3655
6	123.04	0.4374	-0.1376	0.3393	-0.1467	0.3620
7	124.05	0.4317	-0.1368	0.3396	-0.1468	0.3645
8	124.05	0.4274	-0.1370	0.3352	-0.1476	0.3612
9	128.05	0.4134	-0.1354	0.3309	-0.1482	0.3622
10	130.03	0.4073	-0.1344	0.3273	-0.1483	0.3608
11	132.04	0.4033	-0.1349	0.3249	-0.1493	0.3597
12	134.10	0.4053	-0.1342	0.3232	-0.1499	0.3610
13	136.09	0.4044	-0.1350	0.3212	-0.1503	0.3577
14	138.07	0.4026	-0.1343	0.3201	-0.1505	0.3588
15	140.04	0.4058	-0.1339	0.3190	-0.1512	0.3602
16	142.12	0.4046	-0.1354	0.3169	-0.1531	0.3582
17	144.09	0.40765	-0.1384	0.3166	-0.1579	0.3589
18	146.11	0.40609	-0.1414	0.3102	-0.1643	0.3602
19	147.14	0.4543	-0.1434	0.3111	-0.1683	0.3641

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART -ALM BX10-6 CONE TRANSITION

2 12M 0.60 2.5 F14 FREE

POINT	ALPHA	CNP	CM	Ce	KCPF	VCPF
1	148.01	0.8325	-0.1359	0.3319	-0.1680	0.3626
2	149.01	0.8173	-0.1392	0.2982	-0.1703	0.3649
3	150.01	0.7992	-0.1379	0.2911	-0.1726	0.3643
4	151.03	0.7871	-0.1329	0.2769	-0.1733	0.3636
5	152.02	0.7367	-0.1282	0.2670	-0.1740	0.3624
6	153.01	0.7053	-0.1242	0.2554	-0.1761	0.3622
7	154.01	0.6701	-0.1195	0.2453	-0.1789	0.3661
8	156.01	0.6215	-0.1164	0.2272	-0.1876	0.3656
9	159.03	0.5655	-0.1129	0.2126	-0.1997	0.3760
10	160.06	0.5159	-0.1126	0.1949	-0.2187	0.3778
11	162.02	0.4684	-0.1149	0.1826	-0.2454	0.3898
12	164.02	0.4026	-0.1075	0.1643	-0.2469	0.4079
13	166.02	0.3459	-0.1003	0.1452	-0.2901	0.4228
14	168.03	0.2888	-0.0944	0.1221	-0.3074	0.4220
15	170.05	0.2274	-0.0736	0.0959	-0.3231	0.4254
16	172.05	0.1724	-0.0584	0.0736	-0.3379	0.4255
17	174.04	0.1204	-0.0421	0.0497	-0.3494	0.4129
18	176.06	0.0726	-0.0261	0.0295	-0.3601	0.4065
19	177.05	0.0522	-0.0190	0.0212	-0.3661	0.4061

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(6T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH 0.10-5 CONF TRANSITION

2 129 0.00 2.5 F14 FREE

POINT	ALPHA	C <sub>MF</sub>	C <sub>M</sub>	C <sub>w</sub>	XCPF	YCPF
1	178.01	0.0366	-0.0131	0.0133	-0.3580	0.3630
2	178.99	0.0191	-0.0066	0.0091	-0.3478	0.4785
3	180.00	0.0092	-0.0004	0.0009	-0.0051	0.2033
4	181.00	-0.0061	0.0039	-0.0059	-0.6176	0.9706
5	182.00	-0.0069	0.0117	-0.0122	-0.4330	0.4535
6	183.02	-0.0058	0.0102	-0.0170	-0.3974	0.3718
7	184.04	-0.0080	0.0261	-0.0243	-0.3242	0.4168
8	186.03	-0.1140	0.0013	-0.0487	-0.3618	0.4265

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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SPLITTER PLATE DATA

TEST PART NAME RX10-A CONE TRANSITION

2 130 1.10 2.5 F14 FREE

POINT	ALPHA	CNF	CN	Cz	ACPF	YCPF
1	-2.03	-0.0532	0.0437	-0.0218	-0.0704	0.4091
2	-0.44	-0.0065	0.0020	-0.0107	-0.0734	0.3473
3	-0.01	-0.0071	0.0010	-0.0009	-0.1412	0.1299
4	1.03	0.0151	-0.0001	0.0090	-0.0060	0.5920
5	2.04	0.0432	-0.0015	0.0101	-0.0343	0.4617
6	3.02	0.0037	-0.0030	0.0295	-0.0470	0.4673
7	4.02	0.0075	-0.0032	0.0416	-0.0365	0.4750
8	6.06	0.1504	-0.0072	0.0657	-0.0480	0.4356
9	8.05	0.2154	-0.0099	0.0928	-0.0458	0.4300
10	10.09	0.2424	-0.0142	0.1198	-0.0486	0.4096
11	12.16	0.3071	-0.0176	0.1451	-0.0481	0.3953
12	14.09	0.4401	-0.0216	0.1716	-0.0484	0.3848
13	15.14	0.5233	-0.0245	0.1973	-0.0469	0.3770
14	18.12	0.6054	-0.0263	0.2211	-0.0467	0.3650
15	20.26	0.6722	-0.0318	0.2420	-0.0460	0.3496
16	22.17	0.7116	-0.0326	0.2638	-0.0419	0.3393
17	24.24	0.8414	-0.0321	0.2854	-0.0373	0.3313
18	26.23	0.9344	-0.0327	0.3061	-0.0349	0.3204
19	27.26	0.9776	-0.0334	0.3175	-0.0342	0.3250



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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SPLITTER PLATE DATA

## TEST PART NACH RX10-A COMF TRANSITION

2 131 1.10 2.5 F14 FREE

POINT	ALPHA	CMF	CM	C <sub>y</sub>	XCPF	YCPF
1	25.16	1.0115	-0.0362	0.3263	-0.0338	0.3266
2	29.16	1.0441	-0.0349	0.3399	-0.0333	0.3240
3	30.15	1.0433	-0.0355	0.3503	-0.0328	0.3233
4	31.20	1.1226	-0.0365	0.3632	-0.0325	0.3235
5	32.19	1.1534	-0.0375	0.3706	-0.0325	0.3212
6	33.17	1.1664	-0.0378	0.3806	-0.0319	0.3208
7	34.20	1.2203	-0.0386	0.3910	-0.0318	0.3205
8	36.21	1.2789	-0.0390	0.4072	-0.0302	0.3184
9	38.22	1.3262	-0.0380	0.4173	-0.0272	0.3147
10	40.24	1.3137	-0.0190	0.4406	-0.0144	0.3049
11	42.24	1.3194	-0.0080	0.3962	-0.0061	0.3083
12	44.22	1.3346	-0.0027	0.3953	-0.0020	0.2992
13	46.24	1.4527	-0.0038	0.4044	-0.0028	0.3019
14	48.26	1.3595	-0.0268	0.4233	-0.0197	0.3114
15	50.25	1.3682	-0.0361	0.4313	-0.0220	0.3152
16	52.30	1.3774	-0.0362	0.4372	-0.0248	0.3174
17	54.31	1.3697	-0.0371	0.4439	-0.0267	0.3194
18	56.30	1.4011	-0.0372	0.4508	-0.0266	0.3212
19	57.33	1.4384	-0.0390	0.4527	-0.0277	0.3215

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PMT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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SPLITTER PLATE DATA

TEST PART MACH RATIO-6 COVF TRANSITION

2 13P 1.10 2.5 F14 FREE

POINT	ALPHA	CNF	CN	CN	XCPF	YCPF
1	58.17	1.3285	-0.0385	0.4307	-0.0284	0.3200
2	59.19	1.3081	-0.0344	0.4300	-0.0288	0.3206
3	60.18	1.3725	-0.0411	0.4207	-0.0299	0.3211
4	61.17	1.3625	-0.0420	0.4400	-0.0304	0.3229
5	62.19	1.3871	-0.0431	0.4502	-0.0310	0.3246
6	63.18	1.3954	-0.0453	0.4519	-0.0325	0.3238
7	64.17	1.4021	-0.0472	0.4504	-0.0337	0.3244
8	66.21	1.4153	-0.0501	0.4620	-0.0354	0.3264
9	68.20	1.4252	-0.0525	0.4703	-0.0369	0.3300
10	70.20	1.4357	-0.0561	0.4760	-0.0391	0.3315
11	72.20	1.4354	-0.0594	0.4785	-0.0414	0.3340
12	74.21	1.4345	-0.0634	0.4822	-0.0441	0.3352
13	76.23	1.4350	-0.0575	0.4846	-0.0469	0.3360
14	78.23	1.4347	-0.0705	0.4847	-0.0491	0.3370
15	80.26	1.4285	-0.0735	0.4838	-0.0516	0.3387
16	82.25	1.4224	-0.0765	0.4853	-0.0538	0.3411
17	84.26	1.4156	-0.0800	0.4853	-0.0565	0.3428
18	86.25	1.4084	-0.0833	0.4850	-0.0591	0.3448
19	87.27	1.4021	-0.0859	0.4834	-0.0612	0.3467

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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SPLITTER PLATE DATA

TEST PART WACH PX10-6 CO-F TRANSITION

2 133 1.10 2.5 F14 FREE

POINT	ALPHA	CNF	CM	CP	ACPF	YCPF
1	90.13	1.3776	-0.0939	0.4770	-0.0682	0.3664
2	91.12	1.3774	-0.0977	0.4784	-0.0710	0.3673
3	92.13	1.3768	-0.1000	0.4816	-0.0726	0.3699
4	93.14	1.3795	-0.1045	0.4834	-0.0757	0.3504
5	94.12	1.3794	-0.1043	0.4825	-0.0784	0.3503
6	96.13	1.3782	-0.1177	0.4921	-0.0842	0.3520
7	98.14	1.4086	-0.1264	0.4960	-0.0898	0.3523
8	100.14	1.4121	-0.1330	0.5002	-0.0942	0.3542
9	102.15	1.4146	-0.1395	0.5035	-0.0986	0.3559
10	104.16	1.4136	-0.1443	0.5031	-0.1021	0.3568
11	106.20	1.4097	-0.1481	0.5009	-0.1050	0.3553
12	108.20	1.4081	-0.1512	0.5035	-0.1074	0.3576
13	110.19	1.4045	-0.1554	0.5033	-0.1103	0.3571
14	112.17	1.4076	-0.1583	0.5048	-0.1125	0.3586
15	114.22	1.4051	-0.1625	0.5039	-0.1156	0.3583
16	116.21	1.4086	-0.1656	0.5021	-0.1176	0.3565
17	117.20	1.4057	-0.1663	0.5026	-0.1183	0.3576
18	88.10	1.3739	-0.0862	0.4769	-0.0637	0.3446
19	89.14	1.3702	-0.0909	0.4772	-0.0659	0.3458

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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SPLITTER PLATE DATA

## TEST PART MACH 0.810-6 CONF. TRANSITION

2 134 1.10 2.5 F14 FREE

POINT	ALPHA	CNF	CM	C4	XACPF	YCPF
1	118.06	1.4160	-0.1671	0.5050	-0.1180	0.3566
2	119.07	1.4168	-0.1674	0.5015	-0.1187	0.3545
3	120.07	1.4089	-0.1676	0.4996	-0.1190	0.3546
4	121.10	1.4052	-0.1675	0.4987	-0.1192	0.3549
5	122.07	1.4062	-0.1690	0.4975	-0.1200	0.3536
6	123.06	1.4034	-0.1687	0.4955	-0.1202	0.3531
7	124.06	1.3988	-0.1686	0.4917	-0.1208	0.3521
8	126.12	1.3822	-0.1692	0.4871	-0.1225	0.3524
9	128.10	1.3695	-0.1704	0.4835	-0.1244	0.3531
10	130.16	1.3652	-0.1687	0.4800	-0.1236	0.3516
11	132.16	1.3644	-0.1671	0.4728	-0.1293	0.3517
12	134.14	1.3163	-0.1657	0.4631	-0.1259	0.3510
13	136.11	1.2634	-0.1653	0.4529	-0.1295	0.3527
14	138.10	1.2517	-0.1676	0.4445	-0.1339	0.3551
15	140.15	1.2436	-0.1655	0.4281	-0.1375	0.3557
16	142.13	1.1707	-0.1674	0.4142	-0.1430	0.3538
17	144.13	1.1262	-0.1688	0.4023	-0.1499	0.3572
18	146.16	1.0573	-0.1657	0.3813	-0.1567	0.3607
19	147.16	1.0021	-0.1640	0.3706	-0.1604	0.3626

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWTF)

AERODYNAMIC WIND TUNNEL (AWT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION

2 135 1.10 2.5 F14 FWE

POINT	ALPHA	CNF	Cm	Cd	ΔCPF	YCPF
1	149.02	0.0167	-0.1669	0.3671	-0.1522	0.3611
2	149.01	0.0000	-0.1630	0.3504	-0.1662	0.3610
3	150.02	0.0000	-0.1600	0.3426	-0.1702	0.3629
4	151.00	0.0042	-0.1583	0.3320	-0.1701	0.3652
5	152.02	0.0150	-0.1563	0.3261	-0.1747	0.3658
6	153.04	0.0374	-0.1536	0.3079	-0.1835	0.3677
7	154.01	0.0643	-0.1515	0.2875	-0.1884	0.3699
8	156.01	0.0735	-0.1655	0.2434	-0.2164	0.3843
9	158.01	0.0518	-0.1577	0.2665	-0.2279	0.3854
10	160.03	0.0153	-0.1477	0.2360	-0.2400	0.3836
11	162.04	0.5380	-0.1358	0.2079	-0.2523	0.3864
12	164.02	0.4665	-0.1230	0.1790	-0.2651	0.3833
13	166.06	0.3051	-0.1105	0.1509	-0.2747	0.3819
14	168.05	0.3224	-0.0947	0.1227	-0.2937	0.3805
15	170.04	0.2542	-0.0804	0.0947	-0.3101	0.3655
16	172.06	0.1964	-0.0640	0.0730	-0.3258	0.3716
17	174.10	0.1382	-0.0468	0.0470	-0.3387	0.3397
18	176.10	0.0891	-0.0307	0.0253	-0.3450	0.2840
19	177.10	0.0656	-0.0227	0.0136	-0.3667	0.2076

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH 0.15-6 CONF. TRANSITION

2 137 1.30 2.5 F14 FREE

POINT	ALPHA	CNF	CM	CH	XCPCF	YCPCF
1	-2.01	-0.0324	0.0003	-0.0260	-0.0078	0.0100
2	-1.01	-0.0107	-0.0006	-0.0127	0.0001	1.7522
3	-0.01	0.0127	-0.0018	-0.0040	-0.1392	-0.3171
4	1.01	0.0351	-0.0027	0.0059	-0.0778	0.1694
5	2.02	0.0531	-0.0050	0.0157	-0.0915	0.2412
6	3.03	0.0686	-0.0061	0.0204	-0.0685	0.3201
7	4.05	0.1173	-0.0084	0.0407	-0.0683	0.3071
8	6.04	0.1736	-0.0099	0.0565	-0.0574	0.3844
9	8.06	0.2364	-0.0133	0.0922	-0.0557	0.3858
10	10.08	0.3095	-0.0167	0.1152	-0.0538	0.3723
11	12.13	0.3833	-0.0200	0.1381	-0.0523	0.3602
12	14.13	0.4524	-0.0217	0.1613	-0.0480	0.3561
13	16.16	0.5280	-0.0256	0.1818	-0.0485	0.3431
14	18.17	0.6018	-0.0260	0.2009	-0.0465	0.3337
15	20.19	0.6821	-0.0309	0.2224	-0.0453	0.3260
16	22.22	0.7583	-0.0310	0.2432	-0.0409	0.3207
17	24.23	0.8356	-0.0317	0.2645	-0.0380	0.3167
18	26.28	0.9195	-0.0341	0.2847	-0.0375	0.3130
19	27.30	0.9984	-0.0367	0.2957	-0.0368	0.3130

ARMUOL ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH PM10-6 CONF TRANSITION

2 13P 1.30 2.5 F14 FREE

POINT	ALPHA	CNF	CN	Co	XCPF	YCPF
1	28.19	0.9713	-0.0369	0.3036	-0.0379	0.3123
2	29.15	1.0046	-0.0375	0.3138	-0.0373	0.3124
3	30.17	1.0470	-0.0376	0.3292	-0.0363	0.3126
4	31.18	1.0716	-0.0369	0.3328	-0.0363	0.3106
5	32.17	1.1013	-0.0341	0.3425	-0.0355	0.3110
6	33.18	1.1256	-0.0343	0.3528	-0.0340	0.3136
7	34.20	1.1611	-0.0347	0.3612	-0.0342	0.3111
8	34.23	1.2161	-0.0343	0.3772	-0.0323	0.3102
9	35.24	1.2617	-0.0341	0.3913	-0.0302	0.3102
10	40.24	1.2820	-0.0315	0.3952	-0.0246	0.3083
11	42.24	1.2784	-0.0264	0.4003	-0.0204	0.3082
12	44.24	1.3252	-0.0261	0.4108	-0.0212	0.3100
13	45.25	1.3391	-0.0245	0.4123	-0.0221	0.3124
14	48.30	1.3481	-0.0308	0.4241	-0.0229	0.3166
15	50.29	1.3564	-0.0364	0.4294	-0.0208	0.3164
16	52.32	1.3607	-0.0436	0.4365	-0.0321	0.3208
17	54.36	1.3787	-0.0474	0.4439	-0.0364	0.3220
18	56.35	1.3975	-0.0560	0.4518	-0.0358	0.3233
19	57.35	1.4044	-0.0500	0.4560	-0.0356	0.3246

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

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SPLITTER PLATE DATA

TEST PART NAME RX10-6 CONF TRANSITION

2 139 1.36 2.5 F14 FREE

POINT	ALPHA	CNF	CM	CH	CCPF	CCPF	
1	58.18	1.3755	-0.0645	0.4581	-0.0669	0.3302	
2	59.16	1.3828	-0.0623	0.4582	-0.0651	0.3314	
3	60.17	1.3873	-0.0609	0.4581	-0.0636	0.3316	
4	61.19	1.3913	-0.0610	0.4585	-0.0638	0.3318	
5	62.21	1.3960	-0.0621	0.4601	-0.0645	0.3324	
6	63.20	1.4074	-0.0659	0.4666	-0.0668	0.3314	
7	64.22	1.4226	-0.0675	0.4717	-0.0674	0.3316	
8	66.23	1.4474	-0.0651	0.4748	-0.0650	0.3315	
9	68.21	1.4825	-0.0634	0.4882	-0.0637	0.3311	
10	70.26	1.4706	-0.0674	0.4876	-0.0658	0.3316	
11	72.25	1.4812	-0.0691	0.4926	-0.0666	0.3325	
12	74.26	1.4874	-0.0694	0.4954	-0.0670	0.3333	
13	76.27	1.4893	-0.0723	0.4995	-0.0684	0.3354	
14	78.25	1.4883	-0.0733	0.5002	-0.0693	0.3361	
15	80.24	1.4923	-0.0785	0.5025	-0.0526	0.3367	
16	82.31	1.4916	-0.0814	0.5062	-0.0546	0.3393	
17	84.28	1.4936	-0.0854	0.5081	-0.0575	0.3388	
18	86.30	1.4976	-0.0897	0.5094	-0.0599	0.3401	
19	87.32	1.4934	-0.0903	0.5099	-0.0605	0.3413	



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH PA10-6 CONF. TRANSITION

2 1.0 1.30 2.5 F16 FREE

POINT	ALPHA	CNF	CM	C <sub>D</sub>	KCPF	YCPF
1	90.16	1.4045	-0.0434	0.5055	-0.0636	0.3662
2	91.15	1.4004	-0.0451	0.5050	-0.0651	0.3657
3	92.16	1.4015	-0.0491	0.5051	-0.0678	0.3656
4	93.16	1.4027	-0.1035	0.5102	-0.0707	0.3674
5	94.16	1.4031	-0.1062	0.5107	-0.0726	0.3690
6	96.16	1.4067	-0.1110	0.5104	-0.0761	0.3699
7	98.16	1.4064	-0.1165	0.5095	-0.0806	0.3527
8	100.16	1.4324	-0.1248	0.5078	-0.0878	0.3566
9	102.17	1.4346	-0.1357	0.5132	-0.0946	0.3577
10	104.16	1.4367	-0.1410	0.5165	-0.0980	0.3590
11	106.20	1.4333	-0.1465	0.5157	-0.1022	0.3598
12	108.21	1.4318	-0.1529	0.5168	-0.1068	0.3610
13	110.20	1.4242	-0.1576	0.5176	-0.1103	0.3622
14	112.24	1.4275	-0.1606	0.5156	-0.1125	0.3612
15	114.22	1.4266	-0.1636	0.5172	-0.1168	0.3625
16	116.24	1.4210	-0.1665	0.5151	-0.1171	0.3625
17	117.26	1.4146	-0.1687	0.5134	-0.1189	0.3618

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH R310-6 CONE TRANSITION

2 141 1.30 2.5 F14 FREE

POINT	ALPHA	CNF	CH	CH	XCPCF	YCPCF
1	115.08	1.4073	-0.1664	0.5049	-0.1183	0.3618
2	119.04	1.4006	-0.1673	0.5072	-0.1195	0.3621
3	120.10	1.3952	-0.1686	0.5036	-0.1208	0.3610
4	121.10	1.3887	-0.1689	0.5009	-0.1216	0.3607
5	122.10	1.3786	-0.1684	0.4990	-0.1222	0.3619
6	123.08	1.3730	-0.1696	0.4967	-0.1236	0.3617
7	124.10	1.3650	-0.1701	0.4935	-0.1246	0.3615
8	124.12	1.3646	-0.1696	0.4872	-0.1257	0.3610
9	125.13	1.3327	-0.1653	0.4797	-0.1270	0.3599
10	130.10	1.3122	-0.1677	0.4715	-0.1278	0.3593
11	132.11	1.2907	-0.1660	0.4623	-0.1296	0.3582
12	134.14	1.2676	-0.1630	0.4539	-0.1286	0.3581
13	136.14	1.2336	-0.1628	0.4407	-0.1320	0.3573
14	138.15	1.2017	-0.1615	0.4311	-0.1344	0.3588
15	140.17	1.1691	-0.1605	0.4185	-0.1373	0.3580
16	142.16	1.1223	-0.1576	0.4047	-0.1404	0.3606
17	144.15	1.0766	-0.1567	0.3873	-0.1455	0.3598
18	146.18	1.0217	-0.1545	0.3678	-0.1512	0.3599
19	147.16	0.9955	-0.1538	0.3580	-0.1545	0.3597

ARVOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME RA10-6 CONF TRANSITION

2 142 1.30 2.5 F14 FREE

POINT	ALPHA	C <sub>MF</sub>	C <sub>M</sub>	C <sub>D</sub>	XCPF	YCPF
1	148.01	1.0202	-0.1709	0.3705	-0.1675	0.3631
2	149.03	0.9844	-0.1676	0.3580	-0.1698	0.3622
3	150.03	0.9564	-0.1654	0.3456	-0.1733	0.3612
4	151.01	0.9279	-0.1624	0.3329	-0.1763	0.3607
5	152.05	0.8954	-0.1598	0.3210	-0.1805	0.3625
6	153.03	0.8523	-0.1574	0.3079	-0.1847	0.3613
7	154.03	0.8133	-0.1531	0.2963	-0.1882	0.3604
8	156.02	0.7440	-0.1469	0.2722	-0.1974	0.3658
9	158.02	0.6690	-0.1384	0.2452	-0.2068	0.3665
10	160.04	0.5992	-0.1304	0.2140	-0.2183	0.3571
11	162.04	0.5247	-0.1205	0.1889	-0.2296	0.3601
12	164.08	0.4544	-0.1102	0.1614	-0.2425	0.3553
13	166.04	0.3870	-0.0988	0.1369	-0.2552	0.3598
14	168.10	0.3242	-0.0869	0.1131	-0.2661	0.3489
15	170.06	0.2615	-0.0736	0.0895	-0.2808	0.3617
16	172.08	0.2036	-0.0599	0.0656	-0.2948	0.3219
17	174.10	0.1463	-0.0446	0.0428	-0.3007	0.2883
18	176.14	0.0975	-0.0291	0.0209	-0.2990	0.2133
19	177.15	0.0737	-0.0212	0.0143	-0.2873	0.1948

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RATIO - CWF TRANSITION

2 143 1.30 2.5 F14 FREE

POINT	ALPHA	CNF	CM	C <sub>Y</sub>	XCPF	YCPF	
1	175.02	0.0627	-0.0175	0.0115	-0.2788	0.1829	
2	179.00	0.0671	-0.0118	0.0031	-0.2514	0.0668	
3	180.04	0.0646	-0.0036	-0.0071	-0.1486	-0.2960	
4	180.94	0.0066	0.0020	-0.0150	0.3278	-2.4818	
5	182.01	-0.0133	0.0044	-0.0219	-0.7369	1.0966	
6	183.02	-0.0330	0.0155	-0.0296	-0.5005	0.8986	
7	184.02	-0.0551	0.0234	-0.0194	-0.4329	0.7153	
8	186.03	-0.1052	0.0393	-0.0549	-0.3734	0.5689	
9	188.05	-0.1544	0.0533	-0.0805	-0.3365	0.5080	
10	190.07	-0.2152	0.0671	-0.1024	-0.3116	0.4778	
11	192.06	-0.2758	0.0794	-0.1279	-0.2880	0.4637	
12	194.04	-0.3421	0.0921	-0.1520	-0.2694	0.4444	
13	198.08	-0.4817	0.1150	-0.2094	-0.2388	0.4367	
14	200.09	-0.5544	0.1247	-0.2357	-0.2250	0.4251	
15	202.11	-0.6262	0.1328	-0.2532	-0.2121	0.4209	
16	204.09	-0.7005	0.1420	-0.2694	-0.2028	0.4123	
17	206.14	-0.7734	0.1489	-0.3185	-0.1927	0.4120	
18	207.12	-0.8081	0.1519	-0.3294	-0.1890	0.4081	

AEDC-TR-75-125

PAGE 1 OF 1  
SHEET 1 OF 1

PROPULSION WIND TUNNEL FACILITY (PMT)

PARTIAL MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

AERODYNAMIC WIND TUNNEL (AT)

## TEST PART: OAGH 0X10-6 CONF. TRANSITION

2 144 1.20 2.5 F14 FREE

POINT	ALPHA	CNF	CM	CC	YCPF	YCPF
1	-2.72	-0.0236	-0.0004	-0.0214	0.0399	0.2295
2	-1.01	-0.0014	-0.0014	-0.0117	0.9472	6.1737
3	-0.00	0.0214	-0.0033	-0.0009	-0.1504	-0.0414
4	1.03	0.0066	-0.0052	0.0067	-0.1165	0.1428
5	2.02	0.0703	-0.0060	0.0166	-0.0459	0.2363
6	3.01	0.0751	-0.0073	0.0244	-0.0765	0.3096
7	4.05	0.1226	-0.0066	0.0419	-0.0700	0.3416
8	6.03	0.1416	-0.0113	0.0668	-0.0520	0.3673
9	8.08	0.2511	-0.0149	0.0928	-0.0594	0.3615
10	10.08	0.3194	-0.0170	0.1176	-0.0533	0.3681
11	12.11	0.3473	-0.0213	0.1386	-0.0536	0.3689
12	14.14	0.4709	-0.0234	0.1637	-0.0497	0.3677
13	16.13	0.5054	-0.0262	0.1477	-0.0451	0.3662
14	18.14	0.6237	-0.0243	0.2101	-0.0471	0.3368
15	20.20	0.7448	-0.0324	0.2327	-0.0464	0.3278
16	22.23	0.7456	-0.0346	0.2545	-0.0435	0.3199
17	24.22	0.8697	-0.0344	0.2739	-0.0400	0.3149
18	26.26	0.9436	-0.0355	0.2447	-0.0377	0.3123
19	27.24	0.9431	-0.0373	0.3050	-0.0379	0.3103

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RATIO=0. CONE TRANSITION

2 145 1424 2.5 F14 FREE

POINT	ALPHA	CNF	Cn	Co	XCPCF	YCPCF
1	28.14	1.0003	-0.0375	0.3124	-0.0375	0.3123
2	29.16	1.0345	-0.0340	0.3204	-0.0376	0.3098
3	30.15	1.0074	-0.0394	0.3304	-0.0369	0.3094
4	31.16	1.0446	-0.0344	0.3427	-0.0363	0.3113
5	32.17	1.1307	-0.0403	0.3511	-0.0356	0.3105
6	33.16	1.1017	-0.0410	0.3604	-0.0353	0.3106
7	34.14	1.1422	-0.0415	0.3703	-0.0348	0.3104
8	36.22	1.2447	-0.0423	0.3864	-0.0339	0.3090
9	38.21	1.2434	-0.0420	0.4011	-0.0324	0.3100
10	40.26	1.3130	-0.0443	0.4021	-0.0261	0.3063
11	42.24	1.3261	-0.0240	0.4025	-0.0211	0.3031
12	44.25	1.3438	-0.0233	0.4048	-0.0174	0.3012
13	46.29	1.3445	-0.0224	0.4149	-0.0166	0.3031
14	48.24	1.3635	-0.0259	0.4226	-0.0187	0.3054
15	50.31	1.3417	-0.0324	0.4359	-0.0236	0.3132
16	52.24	1.3401	-0.0461	0.4370	-0.0334	0.3166
17	54.32	1.3497	-0.0483	0.4487	-0.0345	0.3204
18	56.31	1.4167	-0.0511	0.4548	-0.0361	0.3210
19	57.33	1.4254	-0.0522	0.4544	-0.0366	0.3222

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH RX10-6 CONF. TRANSITION

2 146 1.20 2.5 F14 FREE

POINT	ALPHA	CNF	CN	CH	XCPF	YCPF
1	58.19	1.4173	-0.0539	0.4585	-0.0380	0.3235
2	59.20	1.4263	-0.0541	0.4601	-0.0379	0.3226
3	60.19	1.4252	-0.0525	0.4645	-0.0368	0.3259
4	61.21	1.4162	-0.0533	0.4618	-0.0376	0.3256
5	62.21	1.4154	-0.0556	0.4627	-0.0393	0.3270
6	63.22	1.4124	-0.0569	0.4646	-0.0417	0.3290
7	64.21	1.4150	-0.0529	0.4659	-0.0445	0.3300
8	66.22	1.4330	-0.0460	0.4755	-0.0461	0.3318
9	68.23	1.4453	-0.0476	0.4813	-0.0468	0.3330
10	70.22	1.4504	-0.0495	0.4864	-0.0479	0.3354
11	72.25	1.4568	-0.0735	0.4887	-0.0504	0.3355
12	74.24	1.4631	-0.0771	0.4921	-0.0527	0.3363
13	76.26	1.4720	-0.0805	0.4962	-0.0547	0.3371
14	78.25	1.4768	-0.0814	0.4967	-0.0551	0.3377
15	80.25	1.4754	-0.0830	0.5008	-0.0563	0.3394
16	82.25	1.4816	-0.0858	0.5025	-0.0579	0.3391
17	84.30	1.4708	-0.0875	0.5025	-0.0595	0.3417
18	86.28	1.4574	-0.0961	0.4964	-0.0618	0.3420
19	87.31	1.4450	-0.0914	0.4970	-0.0633	0.3440

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MAINTAIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH NAL0-6 CONE TRANSITION

2 147 1.26 2.5 F16 FREE

POINT	ALPHA	CNF	CM	CM	ACPF	YCPF
1	88.13	1.4332	-0.0498	0.4458	-0.0689	0.3459
2	89.13	1.4247	-0.1018	0.4451	-0.0713	0.3470
3	90.16	1.4207	-0.1060	0.4470	-0.0743	0.3484
4	91.20	1.4215	-0.1107	0.4477	-0.0775	0.3501
5	92.14	1.4144	-0.1154	0.4461	-0.0816	0.3508
6	93.14	1.4204	-0.1209	0.4440	-0.0851	0.3505
7	94.15	1.4153	-0.1221	0.4400	-0.0863	0.3533
8	96.18	1.4217	-0.1244	0.5021	-0.0912	0.3532
9	98.13	1.4252	-0.1373	0.5146	-0.0963	0.3540
10	100.19	1.4342	-0.1449	0.5106	-0.1010	0.3560
11	102.17	1.4374	-0.1509	0.5140	-0.1050	0.3576
12	104.20	1.4406	-0.1547	0.5174	-0.1073	0.3591
13	106.16	1.4429	-0.1586	0.5174	-0.1099	0.3589
14	108.18	1.4377	-0.1621	0.5160	-0.1128	0.3589
15	110.25	1.4444	-0.1663	0.5173	-0.1151	0.3581
16	112.22	1.4452	-0.1645	0.5185	-0.1173	0.3587
17	114.24	1.4407	-0.1707	0.5189	-0.1144	0.3602
18	116.27	1.4318	-0.1726	0.5140	-0.1205	0.3590
19	117.29	1.4286	-0.1734	0.5129	-0.1217	0.3590



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION

2 148 1.20 2.5 F14 FREE

POINT	ALPHA	CNF	CM	Cp	XCPF	YCpF
1	118.09	1.4346	-0.1726	0.5136	-0.1199	0.3567
2	119.05	1.4393	-0.1718	0.5123	-0.1194	0.3560
3	120.09	1.4376	-0.1713	0.5093	-0.1192	0.3542
4	121.13	1.4344	-0.1699	0.5089	-0.1184	0.3548
5	122.14	1.4245	-0.1697	0.5020	-0.1188	0.3514
6	123.11	1.4146	-0.1685	0.5007	-0.1187	0.3526
7	124.06	1.4114	-0.1689	0.4987	-0.1196	0.3534
8	126.12	1.3434	-0.1602	0.4425	-0.1207	0.3534
9	128.12	1.3792	-0.1671	0.4656	-0.1212	0.3521
10	130.13	1.3626	-0.1647	0.4781	-0.1209	0.3508
11	132.14	1.3327	-0.1625	0.4669	-0.1219	0.3504
12	134.14	1.3034	-0.1628	0.4560	-0.1248	0.3513
13	136.12	1.2601	-0.1660	0.4516	-0.1296	0.3528
14	136.16	1.2441	-0.1675	0.4433	-0.1341	0.3549
15	140.14	1.2054	-0.1661	0.4271	-0.1377	0.3542
16	142.14	1.1448	-0.1638	0.4050	-0.1431	0.3538
17	144.13	1.0824	-0.1606	0.3843	-0.1483	0.3549
18	146.20	1.0197	-0.1568	0.3633	-0.1538	0.3563
19	147.16	0.9461	-0.1573	0.3555	-0.1579	0.3569

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME: RX10-0 CONF TRANSITION

2 1.09 1.20 2.5 F16 FREE

POINT	ALPHA	CNF	CM	CM	XCFF	YCFF
1	142.02	0.4206	-0.1573	0.3520	-0.1604	0.3589
2	144.00	0.4531	-0.1565	0.3431	-0.1642	0.3600
3	150.02	0.9242	-0.1557	0.3359	-0.1665	0.3634
4	151.03	0.8437	-0.1544	0.3241	-0.1732	0.3626
5	152.05	0.8036	-0.1541	0.3117	-0.1784	0.3608
6	153.03	0.8056	-0.1673	0.3028	-0.1932	0.3729
7	154.03	0.4314	-0.1650	0.3079	-0.1963	0.3702
8	156.02	0.7564	-0.1574	0.2426	-0.2074	0.3726
9	158.05	0.6840	-0.1464	0.2554	-0.2177	0.3734
10	160.02	0.6678	-0.1384	0.2264	-0.2277	0.3758
11	162.04	0.5427	-0.1241	0.1472	-0.2404	0.3703
12	164.06	0.4032	-0.1172	0.1732	-0.2530	0.3739
13	166.09	0.3436	-0.1047	0.1461	-0.2665	0.3718
14	168.06	0.3281	-0.0914	0.1163	-0.2801	0.3607
15	170.07	0.2633	-0.0773	0.0420	-0.2534	0.3495
16	172.06	0.2045	-0.0629	0.0591	-0.3076	0.3378
17	174.16	0.1455	-0.0463	0.0429	-0.3165	0.2947
18	176.12	0.0454	-0.0305	0.0442	-0.3184	0.2530
19	177.12	0.0731	-0.0221	0.0167	-0.3019	0.2287

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NACH RX10-6 CONF. TRANSITION

2 150 1.20 2.5 F14 FREE

POINT	ALPHA	CNF	CM	CD	XCWF	YCWF
1	175.01	0.0034	-0.0186	0.0114	-0.2936	0.1792
2	179.01	0.0052	-0.0117	0.0036	-0.2594	0.0830
3	180.00	0.0264	-0.0045	-0.0036	-0.1692	-0.1378
4	181.01	0.0090	0.0024	-0.0132	0.2653	-1.4693
5	181.99	-0.0087	0.0092	-0.0185	-1.0564	2.1305
6	183.04	-0.0270	0.0154	-0.0204	-0.5874	1.0511
7	184.02	-0.0514	0.0242	-0.0370	-0.4713	0.7207
8	186.01	-0.1006	0.0346	-0.0575	-0.3934	0.5721

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME PALG-B CONE TRANSITION

2 155 0.65 2.5 F14 FREE

POINT	ALPHA	CNP	CM	CH	ACPF	YCPF
1	-2.04	-0.0077	0.0021	-0.0163	-0.0039	0.3609
2	-0.97	-0.0025	0.0008	-0.0073	-0.0352	0.3265
3	0.04	-0.0025	0.0004	0.0017	-0.1748	-0.6708
4	1.04	0.0002	0.0017	0.0186	0.2404	3.0113
5	2.05	0.0002	0.0007	0.0260	0.0241	0.9205
6	3.05	0.0097	0.0008	0.0354	0.0161	0.7187
7	4.07	0.0760	0.0001	0.0481	0.0014	0.6325
8	6.08	0.1373	-0.0007	0.0716	-0.0054	0.5215
9	8.08	0.2068	-0.0025	0.0986	-0.0123	0.4574
10	10.10	0.2814	-0.0042	0.1213	-0.0150	0.4302
11	12.11	0.3565	-0.0052	0.1473	-0.0146	0.4133
12	14.13	0.4352	-0.0060	0.1700	-0.0138	0.3905
13	16.16	0.5031	-0.0061	0.1916	-0.0081	0.3609
14	18.16	0.5607	-0.0024	0.2106	-0.0050	0.3626
15	20.18	0.6104	-0.0040	0.2375	-0.0060	0.3561
16	22.20	0.7637	-0.0017	0.2606	-0.0023	0.3412
17	24.22	0.8526	0.0006	0.2802	0.0007	0.3288
18	26.25	0.9454	0.0005	0.3052	0.0005	0.3228
19	27.25	0.9897	0.0006	0.3178	0.0006	0.3211

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME BX10-6 CONF. TRANSITION

2 154 0.63 2.5 F14 FREE

POINT	ALPHA	CNF	CM	Co	KCPF	YCPF
1	29.11	1.0161	0.0013	0.3332	0.0013	0.3222
2	29.20	1.0773	0.0016	0.3453	0.0015	0.3206
3	30.19	1.1090	0.0028	0.3554	0.0025	0.3196
4	31.21	1.1449	0.0035	0.3628	0.0031	0.3169
5	32.21	1.1681	0.0057	0.3667	0.0049	0.3139
6	33.22	1.1791	0.0126	0.3664	0.0137	0.3090
7	34.22	1.1823	0.0197	0.3570	0.0166	0.3020
8	36.20	0.9980	0.0326	0.2888	0.0327	0.2893
9	38.20	1.0167	0.0299	0.2493	0.0294	0.2944
10	40.15	0.9456	-0.0023	0.2924	-0.0024	0.3092
11	42.19	0.9583	-0.0044	0.2785	-0.0046	0.3115
12	44.20	0.9697	-0.0054	0.3032	-0.0060	0.3126
13	45.21	0.9662	-0.0083	0.3101	-0.0085	0.3144
14	48.21	0.9727	-0.0100	0.3159	-0.0101	0.3182
15	50.23	1.0117	-0.0127	0.3213	-0.0125	0.3176
16	52.24	1.0327	-0.0155	0.3292	-0.0150	0.3188
17	54.25	1.0475	-0.0174	0.3356	-0.0170	0.3204
18	56.25	1.0677	-0.0208	0.3426	-0.0194	0.3209
19	57.25	1.0710	-0.0212	0.3462	-0.0198	0.3233

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART: MACH 0.10-6.0 CNF TRANSITION

2 157 0.65 2.5 F14 FREE

POINT	ALPHA	CNF	CM	CR	XCPF	YCPF
1	58.00	1.0424	-0.0203	0.3387	-0.0195	0.3248
2	59.16	1.0493	-0.0218	0.3409	-0.0208	0.3249
3	60.17	1.0457	-0.0230	0.3440	-0.0220	0.3295
4	61.16	1.0452	-0.0250	0.3438	-0.0247	0.3289
5	62.18	1.0513	-0.0286	0.3467	-0.0272	0.3298
6	63.16	1.0542	-0.0311	0.3496	-0.0294	0.3301
7	64.17	1.0543	-0.0315	0.3502	-0.0297	0.3306
8	65.16	1.0602	-0.0324	0.3557	-0.0309	0.3355
9	66.18	1.0616	-0.0350	0.3564	-0.0330	0.3356
10	70.20	1.0612	-0.0373	0.3543	-0.0351	0.3384
11	72.19	1.0714	-0.0411	0.3655	-0.0364	0.3418
12	74.19	1.0837	-0.0449	0.3717	-0.0414	0.3430
13	76.20	1.0751	-0.0462	0.3790	-0.0460	0.3461
14	77.32	1.0477	-0.0506	0.3808	-0.0461	0.3469
15	80.20	1.1048	-0.0575	0.3882	-0.0518	0.3498
16	82.22	1.1070	-0.0616	0.3913	-0.0557	0.3535
17	84.22	1.1052	-0.0669	0.3921	-0.0605	0.3548
18	86.23	1.0745	-0.0722	0.3925	-0.0657	0.3578
19	87.23	1.0750	-0.0741	0.3934	-0.0676	0.3593

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(67)

PAGE 1 OF 1

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH 0.10-0.50 CWF TRANSITION

2 154 0.05 2.5 F14 FNEE

POINT	ALPHA	CNF	CN	CM	ACPF	YCPF
1	88.06	1.0001	-0.0731	0.3602	-0.0692	0.3600
2	89.99	1.0002	-0.0706	0.3705	-0.0716	0.3597
3	90.14	1.0005	-0.0769	0.3772	-0.0736	0.3606
4	91.14	1.0013	-0.0791	0.3760	-0.0759	0.3611
5	92.13	1.0049	-0.0813	0.3736	-0.0790	0.3627
6	93.14	1.0050	-0.0857	0.3723	-0.0836	0.3632
7	94.14	1.0054	-0.0880	0.3759	-0.0859	0.3665
8	96.15	1.0104	-0.0953	0.3702	-0.0943	0.3664
9	98.15	1.0086	-0.1045	0.3750	-0.1026	0.3717
10	100.14	1.0064	-0.1102	0.3756	-0.1095	0.3736
11	102.15	1.0087	-0.1164	0.3771	-0.1154	0.3739
12	104.16	1.0072	-0.1222	0.3764	-0.1213	0.3737
13	106.15	1.0037	-0.1265	0.3773	-0.1260	0.3759
14	108.16	0.9954	-0.1297	0.3768	-0.1303	0.3766
15	110.15	0.9993	-0.1360	0.3769	-0.1361	0.3771
16	112.17	1.0006	-0.1365	0.3778	-0.1385	0.3776
17	114.16	0.9930	-0.1396	0.3761	-0.1406	0.3767
18	116.18	0.9972	-0.1401	0.3720	-0.1420	0.3768
19	117.17	0.9970	-0.1415	0.3680	-0.1439	0.3728

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME: RAIL-6 CONF TRANSITION

2 159 0.65 2.5 F14 FREE

POINT	ALPHA	CNF	CM	CS	XCPF	YCPF
1	115.01	0.9471	-0.1394	0.3415	-0.1441	0.3738
2	119.10	0.9642	-0.1398	0.3473	-0.1450	0.3706
3	120.10	0.9609	-0.1397	0.3555	-0.1453	0.3700
4	121.10	0.9566	-0.1394	0.3552	-0.1452	0.3714
5	122.10	0.9526	-0.1392	0.3522	-0.1461	0.3698
6	123.11	0.9510	-0.1384	0.3512	-0.1460	0.3692
7	124.14	0.9474	-0.1390	0.3483	-0.1467	0.3677
8	124.14	0.9367	-0.1377	0.3437	-0.1470	0.3669
9	128.11	0.9247	-0.1354	0.3387	-0.1464	0.3663
10	130.11	0.9196	-0.1352	0.3349	-0.1471	0.3642
11	132.11	0.9057	-0.1324	0.3297	-0.1467	0.3641
12	134.12	0.8944	-0.1322	0.3257	-0.1470	0.3641
13	136.12	0.8849	-0.1314	0.3199	-0.1485	0.3615
14	139.13	0.8763	-0.1299	0.3102	-0.1482	0.3632
15	142.13	0.8691	-0.1306	0.3145	-0.1503	0.3619
16	142.13	0.8610	-0.1299	0.3089	-0.1509	0.3580
17	144.15	0.8556	-0.1330	0.3090	-0.1554	0.3612
18	146.16	0.8347	-0.1337	0.3029	-0.1602	0.3629
19	147.16	0.8255	-0.1344	0.2992	-0.1629	0.3625



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AWT)

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MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH 0X10-6 CONE TRANSITION

2 160 0.65 2.5 F14 FREE

POINT	ALPHA	C <sub>NP</sub>	C <sub>M</sub>	C <sub>D</sub>	XCPF	YCPF
1	147.94	0.8115	-0.1333	0.2426	-0.1619	0.3596
2	149.04	0.8031	-0.1341	0.2665	-0.1669	0.3568
3	150.08	0.7772	-0.1367	0.2791	-0.1682	0.3592
4	151.05	0.7444	-0.1260	0.2582	-0.1692	0.3603
5	152.08	0.7191	-0.1234	0.2582	-0.1723	0.3599
6	153.07	0.6894	-0.1203	0.2587	-0.1746	0.3607
7	154.08	0.6566	-0.1184	0.2504	-0.1763	0.3613
8	156.09	0.6094	-0.1137	0.2244	-0.1866	0.3662
9	158.08	0.5596	-0.1104	0.2096	-0.1974	0.3704
10	160.08	0.5073	-0.1069	0.1930	-0.2107	0.3805
11	162.05	0.4574	-0.1061	0.1806	-0.2316	0.3904
12	164.06	0.4062	-0.1049	0.1645	-0.2583	0.4049
13	166.08	0.3504	-0.1003	0.1479	-0.2857	0.4216
14	168.09	0.2915	-0.0904	0.1237	-0.3103	0.4403
15	170.09	0.2376	-0.0793	0.0995	-0.3335	0.4604
16	172.10	0.1772	-0.0606	0.0724	-0.3422	0.4884
17	174.10	0.1153	-0.0442	0.0511	-0.3530	0.5079
18	176.12	0.0750	-0.0274	0.0279	-0.3622	0.5086
19	177.11	0.0535	-0.0192	0.0189	-0.3583	0.5029

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH #X10-6 CONF TRANSITION

2 161 0.05 2.5 F14 FREE

POINT	ALPHA	CNF	Cm	Cs	XCPF	YCPF
1	178.00	0.0202	-0.0138	0.0165	-0.3395	0.3559
2	178.44	0.0256	-0.0082	0.0077	-0.3193	0.3010
3	180.22	0.0126	-0.0027	0.0010	-0.2165	0.0791
4	180.99	-0.0033	0.0038	-0.0039	-1.1528	1.1774
5	182.21	-0.0194	0.0101	-0.0121	-0.5113	0.6099
6	183.03	-0.0367	0.0171	-0.0183	-0.4292	0.4608
7	184.25	-0.0510	0.0250	-0.0271	-0.3749	0.4436
8	186.04	-0.1104	0.0415	-0.0490	-0.3742	0.4418

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION

2 162 0.42 2.5 F14 FREE

POINT	ALPHA	CNP	CM	Ca	ACPF	YCPF
1	-2.03	-0.0016	-0.0001	-0.0239	0.0031	0.5726
2	-0.98	-0.0175	-0.0001	-0.0130	0.0000	0.7406
3	0.04	0.0029	-0.0002	-0.0024	-0.2039	-0.9549
4	1.03	0.0253	-0.0015	0.0067	-0.0502	0.2639
5	2.05	0.0416	-0.0010	0.0190	-0.0230	0.0552
6	3.05	0.0642	-0.0011	0.0299	-0.0164	0.0661
7	4.07	0.0912	-0.0020	0.0407	-0.0222	0.0661
8	6.07	0.1495	-0.0031	0.0671	-0.0238	0.0485
9	8.08	0.2214	-0.0061	0.0946	-0.0274	0.0275
10	10.16	0.2952	-0.0081	0.1205	-0.0274	0.0083
11	12.12	0.3762	-0.0109	0.1476	-0.0292	0.3924
12	14.13	0.4574	-0.0127	0.1719	-0.0278	0.3751
13	16.16	0.5356	-0.0124	0.1971	-0.0238	0.3678
14	18.17	0.6146	-0.0134	0.2150	-0.0218	0.3498
15	20.19	0.6917	-0.0145	0.2405	-0.0207	0.3627
16	22.20	0.7961	-0.0144	0.2640	-0.0181	0.3316
17	24.22	0.8802	-0.0135	0.2857	-0.0153	0.3246
18	26.25	0.9734	-0.0153	0.3106	-0.0158	0.3191
19	27.28	1.0154	-0.0154	0.3224	-0.0155	0.3175

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME: RL10-6 COVE TRANSITION

2 163 0.42 2.5 F16 FWE

POINT	ALPHA	CNP	CM	C <sub>D</sub>	XCPF	YCPF
1	13.02	0.4244	-0.0117	0.1809	-0.0271	0.3743
2	14.11	0.4751	-0.0124	0.1771	-0.0261	0.3727
3	15.11	0.5141	-0.0125	0.1803	-0.0244	0.3683
4	16.13	0.5507	-0.0123	0.1900	-0.0224	0.3596
5	17.13	0.5926	-0.0134	0.2279	-0.0226	0.3509
6	18.14	0.6346	-0.0140	0.2176	-0.0220	0.3429
7	19.15	0.6734	-0.0141	0.2297	-0.0210	0.3411
8	21.17	0.7644	-0.0139	0.2502	-0.0162	0.3325
9	23.18	0.8569	-0.0132	0.2756	-0.0155	0.3216
10	25.20	0.9467	-0.0138	0.3002	-0.0146	0.3171
11	27.22	1.0361	-0.0159	0.3269	-0.0154	0.3155
12	29.23	1.1144	-0.0167	0.3514	-0.0150	0.3146
13	31.26	1.1837	-0.0145	0.3646	-0.0122	0.3123
14	33.27	1.1440	-0.0015	0.3647	-0.0013	0.3042
15	35.27	1.1342	0.0324	0.3261	0.0286	0.2877
16	37.28	1.0694	0.0257	0.3357	0.0240	0.2857
17	39.26	1.0754	-0.0022	0.3238	-0.0021	0.3083
18	41.26	1.0404	-0.0106	0.3166	-0.0102	0.3041
19	42.27	1.0451	-0.0168	0.3185	-0.0104	0.3047

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONE TRANSITION

2 164 U.S.C 2.5 F14 FREE

POINT	ALPHA	CNF	Cm	Cp	XCMP	YCMF
1	40.20	1.0023	-0.0073	0.3036	-0.0073	0.3029
2	47.22	1.0152	-0.0091	0.3059	-0.0099	0.3013
3	44.21	1.0274	-0.0106	0.3132	-0.0104	0.3048
4	46.23	1.0323	-0.0125	0.3141	-0.0121	0.3001
5	46.23	1.0484	-0.0141	0.3202	-0.0154	0.3056
6	50.23	1.0635	-0.0161	0.3291	-0.0170	0.3094
7	52.24	1.0754	-0.0147	0.3463	-0.0183	0.3127
8	54.26	1.0941	-0.0224	0.3421	-0.0204	0.3126
9	56.27	1.1132	-0.0253	0.3505	-0.0227	0.3148
10	57.27	1.1242	-0.0266	0.3535	-0.0237	0.3144

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MAKTI4 MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME EX10-6 CONF TRANSITION

2 164 U.02 2.5 F14 FREE

POINT	ALPHA	CN	CM	CH	XCPR	YCPR
1	54.69	1.0759	-0.0247	0.3172	-0.0230	0.3136
2	54.17	1.0606	-0.0263	0.3397	-0.0244	0.3143
3	60.16	1.0658	-0.0274	0.3424	-0.0252	0.3153
4	61.16	1.0695	-0.0283	0.3457	-0.0260	0.3168
5	62.18	1.0760	-0.0283	0.3462	-0.0261	0.3188
6	63.17	1.0419	-0.0303	0.3499	-0.0277	0.3204
7	64.18	1.0074	-0.0417	0.3501	-0.0291	0.3218
8	66.19	1.0014	-0.0364	0.3499	-0.0322	0.3236
9	69.19	1.0052	-0.0372	0.3550	-0.0342	0.3271
10	70.21	1.0091	-0.0405	0.3595	-0.0372	0.3301
11	72.20	1.0086	-0.0450	0.3640	-0.0409	0.3313
12	74.21	1.1042	-0.0488	0.3706	-0.0441	0.3364
13	76.22	1.1150	-0.0533	0.3776	-0.0477	0.3376
14	78.22	1.1245	-0.0579	0.3743	-0.0512	0.3403
15	80.23	1.1325	-0.0612	0.3681	-0.0540	0.3427
16	82.22	1.1337	-0.0661	0.3491	-0.0583	0.3432
17	84.24	1.1327	-0.0705	0.3414	-0.0622	0.3456
18	86.24	1.1274	-0.0743	0.3415	-0.0659	0.3473
19	87.25	1.1251	-0.0772	0.3418	-0.0686	0.3483

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MALM 6X14-0 CONF TRANSITION

2 107 0.62 2.5 F14 FREE

POINT	ALPHA	CNF	CN	CN	XCPF	YCPF
1	88.08	1.0686	-0.0700	0.3750	-0.0711	0.3510
2	89.08	1.0616	-0.0717	0.3728	-0.0737	0.3512
3	90.13	1.0528	-0.0816	0.3730	-0.0776	0.3544
4	91.13	1.0444	-0.0843	0.3732	-0.0804	0.3560
5	92.15	1.0430	-0.0870	0.3726	-0.0853	0.3572
6	93.16	1.0342	-0.0931	0.3703	-0.0900	0.3581
7	94.15	1.0302	-0.0941	0.3707	-0.0952	0.3599
8	95.15	1.0277	-0.1000	0.3723	-0.1031	0.3622
9	96.16	1.0237	-0.1127	0.3737	-0.1101	0.3651
10	100.15	1.0376	-0.1200	0.3779	-0.1157	0.3642
11	102.15	1.0394	-0.1200	0.3811	-0.1194	0.3670
12	104.15	1.0400	-0.1240	0.3816	-0.1239	0.3666
13	106.16	1.0496	-0.1301	0.3854	-0.1277	0.3675
14	108.17	1.0412	-0.1300	0.3815	-0.1307	0.3664
15	110.16	1.0399	-0.1391	0.3794	-0.1338	0.3648
16	112.16	1.0420	-0.1404	0.3805	-0.1351	0.3651
17	113.26	1.0406	-0.1416	0.3805	-0.1361	0.3659
18	116.19	1.0432	-0.1424	0.3745	-0.1369	0.3638
19	117.20	1.0414	-0.1436	0.3760	-0.1379	0.3609

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(6T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RAIL-6 CONF. TRANSITION

2 100 0.92 2.5 F14 FREE

POINT	ALPHA	CNF	CN	Co	ACPF	YCPF
1	118.02	1.0144	-0.1403	0.3666	-0.1383	0.3612
2	119.06	1.0140	-0.1412	0.3661	-0.1387	0.3596
3	120.04	1.0045	-0.1342	0.3594	-0.1386	0.3578
4	121.11	1.0062	-0.1345	0.3604	-0.1389	0.3582
5	122.11	1.0011	-0.1397	0.3573	-0.1396	0.3569
6	123.10	0.9984	-0.1397	0.3560	-0.1399	0.3565
7	124.11	0.9982	-0.1407	0.3535	-0.1395	0.3560
8	126.11	0.9743	-0.1372	0.3443	-0.1431	0.3556
9	128.11	0.9747	-0.1374	0.3462	-0.1410	0.3552
10	130.11	0.9643	-0.1371	0.3340	-0.1422	0.3516
11	132.11	0.9564	-0.1368	0.3335	-0.1439	0.3509
12	134.11	0.9443	-0.1366	0.3310	-0.1447	0.3505
13	136.12	0.9242	-0.1362	0.3251	-0.1465	0.3496
14	138.13	0.9252	-0.1373	0.3224	-0.1485	0.3485
15	140.12	0.9075	-0.1362	0.3191	-0.1501	0.3516
16	142.14	0.8405	-0.1356	0.3140	-0.1523	0.3527
17	144.14	0.8042	-0.1379	0.3100	-0.1559	0.3586
18	146.15	0.8546	-0.1366	0.3040	-0.1592	0.3536
19	147.15	0.8447	-0.1364	0.2963	-0.1615	0.3507



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART -ALM RL10-6 CONF TRANSITION

2 169 0.62 2.5 F14 FREE

POINT	ALPHA	C <sub>MF</sub>	C <sub>M</sub>	C <sub>A</sub>	XCPX	YCPY
1	148.00	0.8409	-0.1351	0.2437	-0.1607	0.3493
2	149.07	0.8141	-0.1320	0.2437	-0.1622	0.3485
3	150.06	0.7912	-0.1301	0.2459	-0.1645	0.3487
4	151.07	0.7603	-0.1261	0.2472	-0.1659	0.3515
5	152.07	0.7434	-0.1238	0.2567	-0.1687	0.3500
6	153.07	0.7099	-0.1224	0.2504	-0.1724	0.3527
7	154.07	0.6872	-0.1213	0.2446	-0.1765	0.3563
8	156.07	0.6401	-0.1145	0.2249	-0.1857	0.3576
9	158.06	0.5925	-0.1136	0.2100	-0.1950	0.3602
10	160.08	0.5305	-0.1099	0.1426	-0.2072	0.3631
11	162.07	0.4622	-0.1061	0.1772	-0.2242	0.3675
12	164.06	0.4386	-0.1303	0.1445	-0.2442	0.4241
13	165.07	0.4356	-0.1184	0.1340	-0.3002	0.4019
14	166.09	0.3242	-0.1028	0.1304	-0.3131	0.3974
15	170.09	0.2053	-0.0661	0.1035	-0.3246	0.3908
16	172.04	0.2044	-0.0642	0.0763	-0.3385	0.3830
17	174.09	0.1480	-0.0515	0.0521	-0.3482	0.3521
18	176.10	0.0440	-0.0333	0.0305	-0.3540	0.3244
19	177.12	0.0082	-0.0236	0.0206	-0.3467	0.3028

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RAIL-6 CONE TRANSITION

2 170 0.62 2-5 F14 FREE

POINT	ALPHA	CNF	CM	C <sub>5</sub>	ACPF	YCPF
1	179.00	0.0531	-0.0177	0.0139	-0.3332	0.2531
2	179.01	0.0560	-0.0110	0.0056	-0.3362	0.1545
3	179.99	0.0194	-0.0043	0.0019	-0.2154	0.0688
4	181.01	0.0067	0.0013	-0.0066	0.1860	-0.9851
5	181.99	-0.0101	0.0080	-0.0127	-0.7921	1.2654
6	183.05	-0.0520	0.0187	-0.0207	-0.5043	0.6463
7	184.01	-0.0547	0.0242	-0.0296	-0.4423	0.5408
8	184.06	-0.1091	0.0429	-0.0517	-0.3933	0.4740

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

NANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART -ALM PX10-6 CONE TRANSITION

2 171 0.98 2.5 F14 FREE

POINT	ALPHA	CMF	CM	CH	XCPF	YCPF
1	-2.03	-0.0000	0.0007	-0.0271	-0.0168	0.6698
2	-0.97	-0.0141	-0.0010	-0.0122	0.0738	0.8680
3	0.03	0.0007	-0.0014	-0.0039	-0.1659	-0.4448
4	1.05	0.0331	-0.0028	0.0070	-0.0847	0.2108
5	2.05	0.0588	-0.0042	0.0193	-0.0731	0.3481
6	3.05	0.0614	-0.0049	0.0325	-0.0598	0.3964
7	4.06	0.1091	-0.0063	0.0438	-0.0574	0.4011
8	5.06	0.1726	-0.0099	0.0718	-0.0575	0.4155
9	6.09	0.2493	-0.0130	0.0981	-0.0532	0.4316
10	10.10	0.3243	-0.0174	0.1268	-0.0544	0.3910
11	12.12	0.4062	-0.0222	0.1585	-0.0547	0.3853
12	14.13	0.4903	-0.0259	0.1807	-0.0528	0.3685
13	16.16	0.5750	-0.0254	0.2067	-0.0519	0.3592
14	18.17	0.6550	-0.0314	0.2316	-0.0479	0.3536
15	20.24	0.7411	-0.0340	0.2572	-0.0459	0.3478
16	22.21	0.8324	-0.0344	0.2798	-0.0416	0.3359
17	24.25	0.9185	-0.0360	0.3003	-0.0371	0.3269
18	26.27	1.0029	-0.0366	0.3233	-0.0345	0.3224
19	27.27	1.0430	-0.0462	0.3376	-0.0328	0.3236

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME: RAIO-6 CONF. TRANSITION

2 172 0.50 2.5 F14 FREE

POINT	ALPHA	CNF	Cm	Cy	XCPF	YCPF
1	25.13	1.1053	-0.0361	0.3530	-0.0329	0.3197
2	29.19	1.1436	-0.0367	0.3562	-0.0321	0.3203
3	30.19	1.1750	-0.0373	0.3755	-0.0318	0.3194
4	31.20	1.2094	-0.0371	0.3770	-0.0307	0.3200
5	32.19	1.2414	-0.0366	0.3930	-0.0295	0.3165
6	33.22	1.2704	-0.0344	0.4119	-0.0271	0.3164
7	34.22	1.2788	-0.0266	0.3974	-0.0208	0.3108
8	35.25	1.2183	0.0064	0.3557	0.0057	0.2919
9	38.22	1.1559	0.0221	0.3187	0.0191	0.2862
10	40.73	1.1043	-0.0049	0.3453	-0.0042	0.2966
11	42.23	1.1000	-0.0159	0.3525	-0.0133	0.3030
12	44.22	1.1564	-0.0197	0.3536	-0.0170	0.3051
13	45.33	1.1565	-0.0202	0.3526	-0.0174	0.3049
14	48.74	1.1055	-0.0204	0.3007	-0.0177	0.3097
15	50.25	1.1752	-0.0232	0.3041	-0.0198	0.3098
16	51.36	1.1730	-0.0244	0.3041	-0.0208	0.3104
17	54.20	1.2400	-0.0243	0.3743	-0.0235	0.3122
18	56.79	1.2204	-0.0301	0.3448	-0.0246	0.3160
19	57.29	1.2286	-0.0315	0.3400	-0.0257	0.3176

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART MACH 0.10-0.6 CONF TRANSITION  
 2 173 0.90 2.5 F14 FREE

POINT	ALPHA	C <sub>MP</sub>	C <sub>M</sub>	C <sub>M</sub>	XCPF	YCPF
1	58.11	1.1368	-0.0290	0.4577	-0.0255	0.3162
2	59.16	1.1552	-0.0311	0.3655	-0.0269	0.3164
3	60.18	1.1632	-0.0322	0.3096	-0.0277	0.3177
4	61.19	1.1705	-0.0337	0.3732	-0.0288	0.3189
5	62.19	1.1841	-0.0347	0.3725	-0.0298	0.3208
6	63.18	1.1837	-0.0358	0.3743	-0.0308	0.3216
7	64.14	1.1576	-0.0379	0.3718	-0.0328	0.3210
8	64.14	1.1505	-0.0396	0.3726	-0.0344	0.3240
9	68.19	1.1441	-0.0419	0.3776	-0.0365	0.3289
10	70.20	1.1442	-0.0444	0.3791	-0.0389	0.3302
11	72.21	1.1534	-0.0487	0.3834	-0.0422	0.3323
12	74.21	1.1840	-0.0530	0.3409	-0.0455	0.3358
13	76.22	1.1673	-0.0585	0.3491	-0.0493	0.3361
14	78.23	1.1424	-0.0626	0.3054	-0.0527	0.3404
15	80.23	1.1483	-0.0679	0.3078	-0.0566	0.3397
16	82.74	1.1477	-0.0713	0.3094	-0.0595	0.3418
17	84.26	1.1456	-0.0750	0.3120	-0.0627	0.3446
18	86.26	1.1487	-0.0796	0.3152	-0.0664	0.3464
19	87.27	1.2444	-0.0824	0.3183	-0.0686	0.3473

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART WACH RK10-6 CONF TRANSITION

2 174 0.90 2.5 F14 FREE

POINT	ALPHA	CNP	CN	CN	ACPF	YCPF
1	88.08	1.1283	-0.0795	0.3891	-0.0767	0.3661
2	90.08	1.1114	-0.0842	0.3497	-0.0757	0.3585
3	91.13	1.1097	-0.0870	0.3221	-0.0784	0.3533
4	92.13	1.1115	-0.0911	0.3431	-0.0820	0.3536
5	93.14	1.1122	-0.0962	0.3466	-0.0865	0.3548
6	94.14	1.1114	-0.0990	0.3466	-0.0890	0.3549
7	96.14	1.1091	-0.1045	0.3469	-0.0978	0.3578
8	98.14	1.1142	-0.1161	0.4002	-0.1042	0.3592
9	100.15	1.1164	-0.1224	0.4044	-0.1099	0.3621
10	102.15	1.1231	-0.1262	0.4057	-0.1141	0.3612
11	104.16	1.1292	-0.1326	0.4091	-0.1174	0.3623
12	106.16	1.1220	-0.1371	0.4049	-0.1222	0.3609
13	108.17	1.1230	-0.1403	0.4078	-0.1249	0.3632
14	110.17	1.1247	-0.1435	0.4104	-0.1276	0.3640
15	112.16	1.1334	-0.1457	0.4116	-0.1285	0.3630
16	114.19	1.1407	-0.1490	0.4129	-0.1306	0.3620
17	116.20	1.1656	-0.1521	0.4145	-0.1305	0.3599
18	117.21	1.1702	-0.1530	0.4222	-0.1308	0.3608

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART: PACM 2X10-b CONF. TRANSITION

2 175 U.S. 2.5 F14 FREE

POINT	ALPHA	C <sub>NP</sub>	C <sub>M</sub>	C <sub>D</sub>	XCPF	YCPF
1	118.05	1.1511	-0.1515	0.4113	-0.1316	0.3573
2	119.06	1.1626	-0.1525	0.4163	-0.1312	0.3583
3	120.05	1.1723	-0.1537	0.4197	-0.1303	0.3559
4	121.10	1.1850	-0.1542	0.4210	-0.1301	0.3552
5	122.10	1.1969	-0.1550	0.4259	-0.1300	0.3566
6	123.11	1.1977	-0.1554	0.4258	-0.1302	0.3556
7	124.12	1.1973	-0.1562	0.4231	-0.1305	0.3536
8	126.12	1.1757	-0.1566	0.4161	-0.1317	0.3539
9	128.11	1.1618	-0.1566	0.4108	-0.1331	0.3536
10	130.12	1.1433	-0.1532	0.4047	-0.1340	0.3540
11	132.12	1.1400	-0.1538	0.4008	-0.1350	0.3516
12	134.12	1.1434	-0.1555	0.4007	-0.1360	0.3505
13	136.12	1.1472	-0.1558	0.3987	-0.1362	0.3502
14	138.13	1.1366	-0.1571	0.3983	-0.1382	0.3504
15	140.14	1.1181	-0.1583	0.3931	-0.1408	0.3496
16	142.15	1.0908	-0.1550	0.3813	-0.1429	0.3496
17	144.16	1.0565	-0.1529	0.3688	-0.1471	0.3491
18	146.17	1.0151	-0.1566	0.3579	-0.1523	0.3526
19	147.16	0.9925	-0.1562	0.3505	-0.1554	0.3532

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME: MA10-6 CONF. TRANSITION

2 176 0.66 2.5 F16 FREE

POINT	ALPHA	CNF	CM	CH	XCPC	YCPC
1	145.00	0.9484	-0.1555	0.3345	-0.1573	0.3686
2	149.06	0.9634	-0.1552	0.3347	-0.1610	0.3525
3	150.06	0.9480	-0.1554	0.3342	-0.1650	0.3525
4	151.06	0.9406	-0.1562	0.3255	-0.1697	0.3536
5	152.07	0.9456	-0.1627	0.3252	-0.1727	0.3590
6	153.06	0.8626	-0.1576	0.3107	-0.1927	0.3602
7	154.06	0.8321	-0.1577	0.3028	-0.1895	0.3639
8	156.07	0.7612	-0.1534	0.2719	-0.2021	0.3704
9	158.06	0.7294	-0.1714	0.2417	-0.2350	0.3861
10	160.06	0.6537	-0.1619	0.2508	-0.2477	0.3837
11	162.07	0.5723	-0.1459	0.2230	-0.2596	0.3897
12	164.06	0.4960	-0.1356	0.1915	-0.2722	0.3846
13	166.07	0.4243	-0.1264	0.1618	-0.2850	0.3814
14	168.06	0.3493	-0.1040	0.1336	-0.2977	0.3824
15	170.06	0.2616	-0.0880	0.1052	-0.3127	0.3735
16	172.10	0.2161	-0.0703	0.0764	-0.3251	0.3533
17	174.11	0.1583	-0.0536	0.0498	-0.3388	0.3146
18	174.11	0.1033	-0.0351	0.0286	-0.3345	0.2769
19	177.11	0.0787	-0.0262	0.0185	-0.3325	0.2350



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME BX10-6 CONF TRANSITION

2 177 0.98 2.5 F14 FREE

POINT	ALPHA	CNF	Cm	Cs	ACPF	YCPF
1	178.00	0.0545	-0.0164	0.0110	-0.3095	0.1856
2	178.99	0.0447	-0.0112	0.0013	-0.2756	0.0315
3	180.01	0.0240	-0.0042	-0.0036	-0.1746	-0.1501
4	181.03	0.0076	0.0071	-0.0114	0.2503	-1.4583
5	182.01	-0.0126	0.0100	-0.0182	-0.7938	1.4471
6	183.05	-0.0344	0.0143	-0.0262	-0.5742	0.7509
7	184.06	-0.0700	0.0107	-0.0424	-0.4384	0.6056
8	186.02	-0.0487	0.0229	-0.0361	-0.4709	0.7417

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME MX10-6 CONF. TRANSITION

2 184 0.60 2.5 F11 FREE

POINT	ALPHA	CN	CM	CD	KCPF	VCPF
1	-2.04	-0.0201	-0.0201	-0.0322	0.4921	0.6625
2	-0.97	-0.0234	-0.0122	-0.0104	0.5232	0.7886
3	0.03	-0.0014	-0.0039	-0.0056	2.4921	3.8414
4	1.04	0.0223	0.0033	0.0060	0.1458	0.2667
5	2.06	0.0453	0.0112	0.0103	0.2461	0.3586
6	3.05	0.0674	0.0204	0.0324	0.3748	0.4851
7	4.06	0.0745	0.0294	0.0433	0.3112	0.4578
8	6.08	0.1541	0.0443	0.0746	0.2745	0.4689
9	8.09	0.2274	0.0613	0.1154	0.2696	0.5074
10	10.11	0.3060	0.0717	0.1552	0.2744	0.5073
11	12.13	0.3902	0.0784	0.1992	0.2610	0.5105
12	14.14	0.4766	0.0775	0.2408	0.1432	0.5073
13	16.16	0.5504	0.0706	0.2767	0.1391	0.5059
14	18.16	0.6412	0.0647	0.3230	0.1387	0.5037
15	20.18	0.7292	0.0691	0.3621	0.0948	0.4966
16	22.19	0.7764	0.0563	0.3763	0.0731	0.4907
17	24.20	0.7695	0.0452	0.3717	0.0587	0.4836
18	26.21	0.7740	0.0440	0.3763	0.0568	0.4862
19	27.22	0.7460	0.0426	0.3794	0.0542	0.4828

ARNOLD ENGINEERING DEVELOPMENT CENTER(AERC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART MACH. PALU-b. CONF. TRANSITION  
 2 165 0.80 2.5 F11 FREE

POINT	ALPHA	CNF	CX	CY	XCPF	YCPF
1	28.08	0.7870	0.0414	0.3781	0.0531	0.4804
2	29.15	0.7992	0.0474	0.3668	0.0531	0.4839
3	30.15	0.8141	0.0427	0.3957	0.0525	0.4861
4	31.16	0.8247	0.0423	0.3986	0.0513	0.4833
5	32.16	0.8310	0.0394	0.3999	0.0474	0.4812
6	33.15	0.8374	0.0345	0.4058	0.0450	0.4845
7	34.17	0.8514	0.0307	0.4101	0.0433	0.4816
8	36.16	0.8736	0.0345	0.4210	0.0394	0.4820
9	38.17	0.9016	0.0317	0.4351	0.0352	0.4826
10	40.18	0.9266	0.0244	0.4449	0.0318	0.4844
11	42.19	0.9474	0.0273	0.4572	0.0288	0.4826
12	44.20	0.9615	0.0234	0.4736	0.0238	0.4825
13	46.20	1.0070	0.0217	0.4892	0.0215	0.4855
14	48.22	1.0475	0.0184	0.5040	0.0180	0.4859
15	50.21	1.0823	0.0154	0.5176	0.0145	0.4872
16	52.23	1.0879	0.0135	0.5340	0.0125	0.4908
17	54.24	1.1001	0.0096	0.5387	0.0088	0.4897
18	56.25	1.1134	0.0060	0.5491	0.0054	0.4932
19	57.25	1.1235	0.0054	0.5535	0.0046	0.4926

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME RX16-6 CONF. TRANSITION

2 186 0.60 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CM	XCDF	YCDF
1	58.10	1.0095	0.0050	0.5364	0.0006	0.4924
2	59.16	1.0041	0.0020	0.5352	0.0018	0.4914
3	60.16	1.0042	-0.0003	0.5373	-0.0003	0.4915
4	61.17	1.0078	-0.0024	0.5344	-0.0023	0.4914
5	62.18	1.1021	-0.0029	0.5455	-0.0026	0.4950
6	63.18	1.0082	-0.0048	0.5425	-0.0044	0.4940
7	64.17	1.1009	-0.0051	0.5467	-0.0047	0.4965
8	66.18	1.1032	-0.0076	0.5492	-0.0076	0.4979
9	68.18	1.1164	-0.0110	0.5607	-0.0098	0.5020
10	70.19	1.1021	-0.0167	0.5640	-0.0149	0.5027
11	72.19	1.1084	-0.0235	0.5762	-0.0205	0.5017
12	74.20	1.1525	-0.0204	0.5644	-0.0216	0.5071
13	76.20	1.1617	-0.0273	0.5730	-0.0235	0.5105
14	78.21	1.1725	-0.0451	0.5460	-0.0249	0.5063
15	79.31	1.1795	-0.0376	0.6005	-0.0318	0.5092
16	82.22	1.1052	-0.0039	0.6111	-0.0370	0.5156
17	84.23	1.1091	-0.0098	0.6125	-0.0419	0.5151
18	86.23	1.1439	-0.0036	0.6230	-0.0449	0.5218
19	87.23	1.1563	-0.0579	0.6136	-0.0488	0.5173

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART WACH PA10-6 CONF. TRANSITION

2 187 0.80 2.5 F11 FREE

POINT	ALPHA	C <sub>MF</sub>	C <sub>M</sub>	C <sub>E</sub>	XCPFF	YCPFF
1	88.10	1.1573	-0.0567	0.6022	-0.0490	0.5203
2	89.10	1.1504	-0.0591	0.6007	-0.0514	0.5222
3	90.16	1.1502	-0.0633	0.6000	-0.0550	0.5210
4	91.17	1.1557	-0.0647	0.6008	-0.0594	0.5199
5	92.16	1.1579	-0.0737	0.5999	-0.0637	0.5181
6	93.17	1.1500	-0.0769	0.5990	-0.0665	0.5190
7	94.16	1.1564	-0.0794	0.6003	-0.0686	0.5189
8	96.17	1.1602	-0.0856	0.6010	-0.0737	0.5169
9	98.16	1.1699	-0.0916	0.5999	-0.0783	0.5128
10	100.18	1.1710	-0.0957	0.5999	-0.0816	0.5111
11	102.17	1.1710	-0.1000	0.5980	-0.0854	0.5086
12	104.18	1.1735	-0.1036	0.5944	-0.0883	0.5069
13	106.16	1.1727	-0.1076	0.5919	-0.0918	0.5047
14	108.19	1.1745	-0.1130	0.5900	-0.0959	0.5064
15	110.19	1.1845	-0.1145	0.5855	-0.0983	0.5020
16	112.21	1.1590	-0.1174	0.5956	-0.1013	0.5050
17	114.21	1.1466	-0.1204	0.5768	-0.1048	0.5021
18	116.22	1.1409	-0.1233	0.5093	-0.1081	0.4990
19	117.22	1.1392	-0.1244	0.5712	-0.1096	0.5016

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PMT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MAINTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART PALM HALO-5 CONF TRANSITION

2 INB 0.60 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	Cn	XCPCF	YCPCF
1	118.05	1.1092	-0.1218	0.5547	-0.1098	0.5000
2	119.12	1.1006	-0.1231	0.5481	-0.1118	0.4980
3	120.12	1.1017	-0.1243	0.5491	-0.1128	0.4984
4	121.13	1.1024	-0.1268	0.5470	-0.1150	0.4960
5	122.13	1.1016	-0.1295	0.5492	-0.1175	0.4961
6	123.13	1.0944	-0.1295	0.5405	-0.1183	0.4936
7	124.13	1.0912	-0.1315	0.5401	-0.1205	0.4952
8	126.13	1.0874	-0.1334	0.5362	-0.1231	0.4929
9	127.26	1.0886	-0.1365	0.5362	-0.1256	0.4915
10	130.14	1.0571	-0.1375	0.5176	-0.1301	0.4898
11	132.14	1.0445	-0.1364	0.5129	-0.1330	0.4910
12	134.14	1.0184	-0.1400	0.4969	-0.1374	0.4879
13	136.15	0.9876	-0.1387	0.4798	-0.1404	0.4857
14	138.14	0.9643	-0.1387	0.4676	-0.1438	0.4850
15	139.26	0.9487	-0.1377	0.4618	-0.1457	0.4880
16	142.16	0.9161	-0.1375	0.4436	-0.1501	0.4842
17	144.16	0.8924	-0.1404	0.4324	-0.1524	0.4844
18	146.17	0.8712	-0.1374	0.4203	-0.1577	0.4825
19	147.16	0.8633	-0.1382	0.4145	-0.1601	0.4802

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART: MALM-BALL-6 CONF TRANSITION

2 1A9 0.60 2.5 F11 FREE

POINT	ALPHA	CNF	CM	Co	XCPF	YCPF
1	148.01	0.6411	-0.1361	0.4045	-0.1618	0.4833
2	149.04	0.6271	-0.1354	0.4010	-0.1662	0.4847
3	150.04	0.6087	-0.1335	0.3911	-0.1652	0.4838
4	151.04	0.7096	-0.1308	0.3833	-0.1656	0.4855
5	152.09	0.7695	-0.1243	0.3703	-0.1680	0.4812
6	153.04	0.7553	-0.1272	0.3635	-0.1684	0.4813
7	154.04	0.7383	-0.1254	0.3551	-0.1699	0.4809
8	156.09	0.7233	-0.1225	0.3513	-0.1693	0.4857
9	158.16	0.7339	-0.1272	0.3534	-0.1734	0.4816
10	160.10	0.7344	-0.1456	0.3600	-0.1971	0.4875
11	162.10	0.6786	-0.1507	0.3392	-0.2221	0.4998
12	164.09	0.5780	-0.1425	0.2942	-0.2465	0.5098
13	166.10	0.5211	-0.1349	0.2565	-0.2732	0.5124
14	168.11	0.4284	-0.1299	0.2153	-0.3032	0.5026
15	170.10	0.3477	-0.1155	0.1733	-0.3322	0.4962
16	172.10	0.2677	-0.0944	0.1240	-0.3525	0.4779
17	174.12	0.1964	-0.0720	0.0863	-0.3783	0.4531
18	176.12	0.1221	-0.0475	0.0524	-0.3694	0.4338
19	177.11	0.0541	-0.0368	0.0413	-0.3413	0.4386

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST BODY MACH. 4.10-6 CONF. TRANSITION

2 190 0.00 2.5 F11 FREE

POINT	ALPHA	C <sub>DF</sub>	C <sub>M</sub>	C <sub>N</sub>	XCPF	YCPF
1	178.00	0.0739	-0.0296	0.0274	-0.3422	0.3709
2	178.97	0.0508	-0.0189	0.0126	-0.3752	0.2506
3	179.97	0.0235	-0.0051	0.0014	-0.3451	0.0764
4	181.02	-0.0026	0.0024	-0.0115	-0.9276	4.1372
5	182.04	-0.0215	0.0153	-0.0202	-0.4454	0.6393
6	182.94	-0.0554	0.0252	-0.0246	-0.4510	0.5287
7	184.01	-0.0820	0.0359	-0.0439	-0.4365	0.5357
8	184.01	-0.1414	0.0572	-0.0746	-0.4031	0.5254



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PARI MACH 8X10-8 CONF TRANSITION

2 196 0.05 7.5 F11 FREE

POINT	ALPHA	CNF	Cm	Cm	XCPF	YCPF
1	-2.04	-0.0433	-0.0198	-0.0267	0.4583	0.6169
2	-0.96	-0.0143	-0.0118	-0.0176	0.8206	1.2294
3	0.04	0.0092	-0.0051	-0.0058	-0.5560	-0.0281
4	1.05	0.0313	0.0038	0.0062	0.1215	0.1966
5	2.06	0.0554	0.0113	0.0205	0.2023	0.3679
6	3.07	0.0806	0.0194	0.0321	0.2460	0.3973
7	4.07	0.1104	0.0284	0.0437	0.2581	0.3945
8	6.06	0.1753	0.0450	0.0786	0.2568	0.4484
9	8.10	0.2492	0.0826	0.1212	0.2511	0.4863
10	10.12	0.3292	0.0792	0.1652	0.2406	0.5018
11	12.15	0.4196	0.0718	0.2123	0.2188	0.5059
12	14.15	0.4851	0.0754	0.2422	0.1554	0.4991
13	16.16	0.5047	0.0562	0.2796	0.1162	0.4907
14	18.16	0.6567	0.0592	0.3250	0.0901	0.4940
15	20.20	0.7404	0.0512	0.3511	0.0702	0.4817
16	22.21	0.7664	0.0474	0.3641	0.0618	0.4813
17	24.22	0.7792	0.0436	0.3746	0.0552	0.4859
18	26.22	0.8002	0.0410	0.3674	0.0512	0.4844
19	27.24	0.8079	0.0410	0.3918	0.0507	0.4858

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH RAIL-6 CWF TRANSITION

2 195 0.85 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CD	XCPF	YCPF
1	28.29	0.8451	0.0385	0.3081	0.0078	0.0020
2	29.16	0.8164	0.0371	0.3437	0.0054	0.0020
3	30.15	0.8310	0.0370	0.3497	0.0045	0.0009
4	31.16	0.8440	0.0367	0.4053	0.0035	0.0001
5	32.17	0.8597	0.0372	0.4100	0.0037	0.0025
6	33.16	0.8565	0.0349	0.4101	0.0007	0.0000
7	34.17	0.8671	0.0352	0.4199	0.0007	0.0003
8	36.18	0.8842	0.0301	0.4286	0.0037	0.0093
9	38.18	0.9167	0.0292	0.4622	0.0019	0.0024
10	40.19	0.9430	0.0275	0.4540	0.0091	0.0019
11	42.20	0.9766	0.0230	0.4683	0.0036	0.0005
12	44.21	1.0016	0.0215	0.4848	0.0015	0.0000
13	46.22	1.0322	0.0182	0.4995	0.0076	0.0039
14	48.23	1.0672	0.0150	0.5180	0.0140	0.0054
15	50.23	1.0956	0.0124	0.5343	0.0110	0.0004
16	52.24	1.1097	0.0083	0.5421	0.0075	0.0006
17	54.25	1.1313	0.0045	0.5543	0.0040	0.0004
18	56.26	1.1516	0.0031	0.5557	0.0027	0.0011
19	57.26	1.1543	0.0019	0.5592	0.0017	0.0030

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART NAME RALU-6 CONF TRANSITION  
 2 196 0.65 2.5 F11 FREE

POINT	ALPHA	CNF	CN	CN	XCDF	YCDF
1	58.11	1.0963	0.0032	0.5407	0.0229	0.4932
2	59.17	1.0937	0.0003	0.5365	0.0003	0.4905
3	60.17	1.1003	-0.0010	0.5324	-0.0014	0.4930
4	61.18	1.0965	-0.0027	0.5424	-0.0020	0.4946
5	62.18	1.0972	-0.0025	0.5392	-0.0023	0.4960
6	63.17	1.1103	-0.0071	0.5377	-0.0064	0.4932
7	64.18	1.1076	-0.0042	0.5512	-0.0074	0.4977
8	65.18	1.1094	-0.0117	0.5510	-0.0105	0.4967
9	66.19	1.1250	-0.0146	0.5040	-0.0130	0.5013
10	70.19	1.1385	-0.0198	0.5090	-0.0174	0.4997
11	72.20	1.1350	-0.0234	0.5510	-0.0202	0.5027
12	74.21	1.1721	-0.0265	0.5940	-0.0243	0.5067
13	76.21	1.1841	-0.0333	0.5987	-0.0281	0.5056
14	78.22	1.2047	-0.0385	0.6133	-0.0323	0.5091
15	80.23	1.2033	-0.0424	0.6150	-0.0352	0.5111
16	82.23	1.2040	-0.0473	0.6174	-0.0393	0.5127
17	84.24	1.2040	-0.0513	0.6253	-0.0424	0.5170
18	86.24	1.2107	-0.0562	0.6298	-0.0464	0.5202
19	87.24	1.2063	-0.0577	0.6287	-0.0479	0.5211

2	197	0.65	2.5	F11	FREE
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POINT	ALPHA	CNF	Cm	Cm	ACPF	VCPF
1	90.15	1.1713	-0.0069	0.0049	-0.0517	0.5160
2	91.15	1.1717	-0.0049	0.0107	-0.0091	0.5212
3	92.15	1.1715	-0.0073	0.0068	-0.0020	0.5180
4	93.15	1.1724	-0.0080	0.0061	-0.0065	0.5168
5	94.15	1.1655	-0.0093	0.0093	-0.0080	0.5187
6	96.16	1.1750	-0.0060	0.0075	-0.0731	0.5167
7	95.16	1.1609	-0.0099	0.0028	-0.0761	0.5155
8	100.16	1.1756	-0.0091	0.0066	-0.0029	0.5093
9	102.17	1.1711	-0.0009	0.0062	-0.0247	0.5089
10	100.18	1.1703	-0.1071	0.0049	-0.0893	0.5048
11	100.18	1.1731	-0.1076	0.0077	-0.0904	0.5090
12	100.18	1.1695	-0.1136	0.0086	-0.0955	0.5032
13	110.19	1.1609	-0.1157	0.0071	-0.0980	0.5057
14	117.20	1.1700	-0.1179	0.0091	-0.1004	0.5059
15	110.19	1.1679	-0.1213	0.0073	-0.1039	0.5029
16	115.31	1.1691	-0.1202	0.0070	-0.1063	0.5020
17	117.20	1.1511	-0.1267	0.0065	-0.1084	0.5099

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART NAME: X10-B CONE TRANSITION  
 2 198 0.05 2.5 F11 FREE

POINT	ALPHA	C <sub>NP</sub>	C <sub>M</sub>	C <sub>D</sub>	XCPF	YCPF
1	120.06	1.1106	-0.1250	0.5565	-0.1125	0.4957
2	121.11	1.1143	-0.1240	0.5491	-0.1149	0.4928
3	122.11	1.1063	-0.1291	0.5473	-0.1167	0.4947
4	123.12	1.1066	-0.1307	0.5477	-0.1182	0.4952
5	124.12	1.1092	-0.1310	0.5507	-0.1181	0.4965
6	125.12	1.1059	-0.1353	0.5449	-0.1224	0.4927
7	126.13	1.0936	-0.1365	0.5371	-0.1251	0.4911
8	130.13	1.0862	-0.1344	0.5300	-0.1278	0.4879
9	132.13	1.0663	-0.1411	0.5183	-0.1321	0.4852
10	134.14	1.0425	-0.1402	0.5071	-0.1345	0.4864
11	136.11	1.0180	-0.1406	0.4948	-0.1381	0.4861
12	138.10	0.9854	-0.1400	0.4780	-0.1420	0.4849
13	140.10	0.9596	-0.1367	0.4651	-0.1447	0.4850
14	142.11	0.9360	-0.1364	0.4553	-0.1483	0.4864
15	144.14	0.9136	-0.1371	0.4422	-0.1501	0.4844
16	146.13	0.8946	-0.1397	0.4293	-0.1561	0.4799
17	147.14	0.8844	-0.1390	0.4250	-0.1571	0.4803

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH PA10-6 CONF TRANSITION

2 199 0.65 2.5 F11 FREE

POINT	ALPHA	CNF	CN	Cx	XCDF	YCPF
1	148.02	0.8617	-0.1391	0.4126	-0.1614	0.4789
2	149.04	0.8472	-0.1380	0.4069	-0.1628	0.4803
3	149.40	0.8373	-0.1471	0.3962	-0.1638	0.4755
4	150.08	0.8283	-0.1471	0.3928	-0.1656	0.4742
5	151.09	0.8095	-0.1396	0.3845	-0.1662	0.4767
6	152.10	0.7884	-0.1320	0.3764	-0.1673	0.4778
7	153.05	0.7724	-0.1244	0.3695	-0.1681	0.4782
8	154.04	0.7654	-0.1244	0.3635	-0.1697	0.4749
9	156.10	0.7424	-0.1279	0.3524	-0.1722	0.4743
10	158.04	0.7365	-0.1290	0.3521	-0.1751	0.4780
11	160.10	0.7377	-0.1426	0.3522	-0.1933	0.4775
12	162.10	0.6776	-0.1424	0.3294	-0.2108	0.4666
13	164.09	0.5537	-0.1393	0.2844	-0.2387	0.4968
14	166.10	0.5064	-0.1367	0.2505	-0.2686	0.4922
15	168.24	0.4291	-0.1315	0.2103	-0.3065	0.4981
16	170.10	0.3602	-0.1277	0.1709	-0.3547	0.4744
17	172.10	0.2715	-0.0945	0.1230	-0.3666	0.4531
18	174.11	0.1954	-0.0754	0.0813	-0.3672	0.4152
19	176.11	0.1305	-0.0522	0.0449	-0.4004	0.3824
20	177.11	0.0492	-0.0347	0.0340	-0.4004	0.3431

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MAGM-RF10-4 CONF TRANSITION

2 200 0.65 2.5 F11 FREE

POINT	ALPHA	CNF	CM	Co	ACPF	YCPF
1	174.00	0.0741	-0.0085	0.0225	-0.3851	0.3044
2	178.98	0.0474	-0.0164	0.0114	-0.3572	0.2402
3	180.00	0.0235	-0.0044	-0.0006	-0.3562	-0.0260
4	181.00	-0.0020	0.0023	-0.0145	-1.1130	7.1330
5	182.00	-0.0090	0.0141	-0.0268	-0.4870	0.9249
6	183.03	-0.0067	0.0245	-0.0373	-0.4672	0.6591
7	184.00	-0.0034	0.0373	-0.0512	-0.4439	0.6095
8	186.02	-0.1463	0.0595	-0.0833	-0.4071	0.5697

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

NAVIA MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME H410-5 CONF TRANSITION

2 201 0.92 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CH	ACPF	YCPF
1	-2.04	-0.0426	-0.0244	-0.0298	0.5521	0.7106
2	-0.44	-0.0146	-0.0140	-0.0177	0.9587	1.2149
3	0.04	0.0094	-0.0020	-0.0047	-0.5491	-0.5249
4	1.05	0.0391	0.0024	0.0046	0.0659	0.1164
5	1.97	0.0626	0.0102	0.0168	0.1621	0.2672
6	3.06	0.0914	0.0210	0.0332	0.2301	0.3632
7	4.28	0.1167	0.0325	0.0491	0.2426	0.4226
8	6.06	0.1475	0.0495	0.0833	0.2640	0.4475
9	8.10	0.2036	0.0663	0.1250	0.2590	0.4763
10	10.12	0.3345	0.0813	0.1732	0.2293	0.4686
11	12.15	0.4455	0.0947	0.2250	0.2125	0.5050
12	14.17	0.5384	0.1023	0.2737	0.1498	0.5078
13	16.19	0.6113	0.1043	0.3163	0.1652	0.5010
14	18.19	0.6712	0.1067	0.3349	0.0979	0.4916
15	20.21	0.7458	0.0479	0.3543	0.0642	0.4818
16	22.22	0.8090	0.0414	0.3579	0.0512	0.4795
17	24.24	0.8695	0.0424	0.4177	0.0487	0.4804
18	26.25	0.8433	0.0377	0.4764	0.0422	0.4773
19	27.25	0.8405	0.0361	0.4266	0.0405	0.4791



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      HAWTHORNE MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART NAME R10-6 CONF. TRANSITION  
 2 202 0.002 2.5 F11 FREE

POINT	ALPHA	CNP	CN	C <sub>q</sub>	XCPF	YCPF
1	28.11	0.8476	0.0353	0.4277	0.0344	0.4766
2	29.18	0.8455	0.0348	0.4238	0.0389	0.4733
3	30.17	0.8433	0.0317	0.4262	0.0355	0.4772
4	31.18	0.8470	0.0312	0.4254	0.0348	0.4747
5	32.18	0.8422	0.0295	0.4288	0.0327	0.4752
6	33.19	0.8421	0.0310	0.4368	0.0340	0.4789
7	34.19	0.8424	0.0295	0.4405	0.0320	0.4755
8	36.20	0.8383	0.0266	0.4437	0.0283	0.4728
9	38.20	0.8384	0.0249	0.4577	0.0259	0.4773
10	40.20	0.8430	0.0204	0.4764	0.0205	0.4797
11	42.21	1.0134	0.0203	0.4855	0.0208	0.4791
12	44.22	1.0446	0.0157	0.4985	0.0150	0.4772
13	46.24	1.0714	0.0111	0.5233	0.0102	0.4794
14	47.35	1.1024	0.0110	0.5286	0.0108	0.4795
15	50.25	1.1385	0.0063	0.5449	0.0056	0.4822
16	52.26	1.1486	0.0036	0.5575	0.0031	0.4852
17	54.27	1.1493	0.0016	0.5553	0.0014	0.4832
18	56.29	1.1477	-0.0012	0.5572	-0.0010	0.4855
19	57.29	1.1441	-0.0009	0.5547	-0.0008	0.4849

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME: R410-B CONF. TRANSITION

2 203 0.92 2.5 F11 FREE

POINT	ALPHA	CNF	CM	C3	KCPF	YCPF
1	58.11	1.0866	-0.0002	0.5263	-0.0002	0.4849
2	59.17	1.0866	-0.0024	0.5300	-0.0022	0.4871
3	59.66	1.0874	-0.0031	0.5333	-0.0029	0.4902
4	60.17	1.0866	-0.0024	0.5337	-0.0022	0.4910
5	60.74	1.0816	-0.0054	0.5365	-0.0049	0.4914
6	61.16	1.0873	-0.0061	0.5355	-0.0056	0.4902
7	62.19	1.1024	-0.0091	0.5400	-0.0083	0.4896
8	63.16	1.1070	-0.0100	0.5436	-0.0091	0.4935
9	64.16	1.1093	-0.0124	0.5477	-0.0112	0.4937
10	66.20	1.1746	-0.0160	0.5566	-0.0142	0.4948
11	68.20	1.1323	-0.0183	0.5553	-0.0162	0.4997
12	70.21	1.1613	-0.0246	0.5772	-0.0212	0.4978
13	72.21	1.1663	-0.0278	0.5743	-0.0235	0.5039
14	74.22	1.2079	-0.0346	0.6110	-0.0288	0.4996
15	76.23	1.2493	-0.0373	0.6109	-0.0309	0.5052
16	78.23	1.2213	-0.0413	0.6149	-0.0338	0.5068
17	80.24	1.2264	-0.0453	0.6232	-0.0369	0.5082
18	82.25	1.2332	-0.0499	0.6262	-0.0405	0.5094
19	84.26	1.2421	-0.0534	0.6437	-0.0433	0.5144
20	86.26	1.2364	-0.0589	0.6370	-0.0476	0.5152
21	87.27	1.2374	-0.0623	0.6370	-0.0503	0.5144

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(471)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME: PA10-6 CONF. TRANSITION

2 204 0.92 2.5 F11 FREE

POINT	ALPHA	CNF	CN	CH	XCPF	YCPF
1	85.10	1.1942	-0.0010	0.0167	-0.0515	0.5164
2	90.12	1.1051	-0.0070	0.0149	-0.0569	0.5189
3	91.09	1.1043	-0.0769	0.0145	-0.0528	0.5189
4	92.13	1.1079	-0.0772	0.0130	-0.0650	0.5160
5	93.13	1.1086	-0.0798	0.0144	-0.0672	0.5169
6	94.14	1.1115	-0.0739	0.0140	-0.0704	0.5153
7	95.16	1.1164	-0.0786	0.0137	-0.0740	0.5128
8	96.15	1.2143	-0.0955	0.0178	-0.0786	0.5088
9	100.13	1.2109	-0.0979	0.0128	-0.0828	0.5060
10	102.14	1.2110	-0.1020	0.0119	-0.0842	0.5053
11	104.17	1.2142	-0.1068	0.0112	-0.0876	0.5017
12	106.16	1.2133	-0.1111	0.0069	-0.0916	0.5002
13	108.16	1.2134	-0.1136	0.0022	-0.0953	0.4962
14	110.14	1.2032	-0.1143	0.0005	-0.0983	0.4993
15	112.19	1.1904	-0.1204	0.5089	-0.1012	0.4945
16	114.19	1.1731	-0.1216	0.5045	-0.1036	0.4962
17	116.20	1.1647	-0.1249	0.5755	-0.1068	0.4941
18	117.19	1.1607	-0.1246	0.5712	-0.1073	0.4922

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PMT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME F10-6 CONF TRANSITION

2 204 0.60 2.5 F36 FREE

POINT	ALPHA	C <sub>NP</sub>	C <sub>N</sub>	-C <sub>N</sub>	XCPF	YCPF
1	-2.03	-0.0274	0.0003	-0.0074	-0.0099	0.2758
2	-0.98	-0.0150	-0.0000	-0.0014	0.0007	0.0929
3	0.02	-0.0045	-0.0000	0.0042	-0.0009	-0.9354
4	1.04	0.0061	-0.0001	0.0106	-0.0164	1.7459
5	2.04	0.0174	-0.0003	0.0148	-0.0190	0.8282
6	3.05	0.0274	-0.0002	0.0230	-0.0084	0.9393
7	4.05	0.0450	-0.0012	0.0298	-0.0275	0.6616
8	6.07	0.0643	-0.0026	0.0453	-0.0307	0.5378
9	8.07	0.1297	-0.0038	0.0593	-0.0295	0.4573
10	10.09	0.1761	-0.0044	0.0721	-0.0260	0.4049
11	12.12	0.2361	-0.0065	0.0895	-0.0277	0.3788
12	14.14	0.2946	-0.0072	0.1058	-0.0245	0.3589
13	16.15	0.3593	-0.0074	0.1209	-0.0218	0.3366
14	18.17	0.4206	-0.0074	0.1377	-0.0179	0.3274
15	20.20	0.4894	-0.0072	0.1553	-0.0148	0.3207
16	22.22	0.5577	-0.0073	0.1752	-0.0133	0.3198
17	24.24	0.6090	-0.0070	0.1935	-0.0114	0.3173
18	26.26	0.6744	-0.0067	0.2082	-0.0100	0.3087
19	27.28	0.7462	-0.0059	0.2185	-0.0084	0.3094

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWTF)      AERODYNAMIC WIND TUNNEL (AWT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART NAME: BX10-6 COEF TRANSITION  
 2 209 U.B.U 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CN	XCPF	YCPF
4	28.14	0.7366	-0.0037	0.2232	-0.0050	0.3038
5	29.14	0.7625	-0.0024	0.2309	-0.0038	0.3028
6	30.20	0.7706	-0.0019	0.2360	-0.0024	0.3010
7	31.24	0.8151	-0.0004	0.2453	-0.0009	0.3010
8	32.26	0.8544	0.0002	0.2517	0.0003	0.2981
9	33.27	0.8702	0.0016	0.2577	0.0019	0.2961
10	34.27	0.8776	0.0024	0.2632	0.0032	0.2934
11	36.34	0.9376	0.0094	0.2700	0.0101	0.2895
12	38.30	0.9991	0.0274	0.2773	0.0305	0.2751
13	40.30	0.8661	0.0261	0.2511	0.0295	0.2834
14	42.31	0.9284	0.0247	0.2650	0.0256	0.2854
15	44.33	0.9533	0.0254	0.2728	0.0257	0.2862
16	46.34	0.9712	0.0244	0.2527	0.0256	0.2909
17	48.31	0.9578	-0.0014	0.2457	-0.0019	0.3087
18	50.32	0.9761	-0.0041	0.3021	-0.0094	0.3116
19	52.32	0.9834	-0.0124	0.3041	-0.0127	0.3143
20	54.33	0.9577	-0.0142	0.3173	-0.0143	0.3181
21	56.35	1.0206	-0.0164	0.3254	-0.0165	0.3189
22	57.34	1.0265	-0.0180	0.3292	-0.0175	0.3201

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC) . PROPULSION WIND TUNNEL FACILITY(PWT)  
 PAGE 1 OF 1 HAWTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1 SPLITTER PLATE DATA

AERODYNAMIC WIND TUNNEL(4T)

TEST PART MACH PR10-6 CONE TRANSITION  
 ? 210 0.80 2.5 F36 FREE

POINT	ALPHA	CNF	CN	CD	KCPF	YCPF
1	55.20	1.0053	-0.0143	0.3220	-0.0182	0.3207
2	59.74	1.0173	-0.0213	0.3273	-0.0209	0.3217
3	60.23	1.0224	-0.0226	0.3306	-0.0221	0.3233
4	61.24	1.0253	-0.0242	0.3320	-0.0236	0.3238
5	62.26	1.0290	-0.0255	0.3340	-0.0248	0.3247
6	63.20	1.0290	-0.0267	0.3361	-0.0259	0.3265
7	64.25	1.0302	-0.0282	0.3363	-0.0273	0.3264
8	64.75	1.0307	-0.0311	0.3403	-0.0300	0.3283
9	65.25	1.0390	-0.0329	0.3426	-0.0317	0.3297
10	70.26	1.0380	-0.0343	0.3442	-0.0331	0.3316
11	72.26	1.0347	-0.0366	0.3460	-0.0353	0.3331
12	74.76	1.0356	-0.0387	0.3467	-0.0374	0.3340
13	76.27	1.0416	-0.0411	0.3510	-0.0395	0.3375
14	76.26	1.0500	-0.0443	0.3550	-0.0422	0.3387
15	80.27	1.0577	-0.0475	0.3594	-0.0449	0.3403
16	82.27	1.0640	-0.0513	0.3640	-0.0482	0.3425
17	84.28	1.0690	-0.0552	0.3679	-0.0517	0.3448
18	86.78	1.0697	-0.0586	0.3691	-0.0546	0.3451
19	87.28	1.0746	-0.0611	0.3710	-0.0568	0.3453

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME: X-15-6 CONF. TRANSITION

2 211 0.60 2.5 F36 FREE

POINT	ALPHA	CNF	CN	C <sub>N</sub>	XCPF	YCPF
1	88.13	1.0284	-0.0587	0.3575	-0.0570	0.3675
2	89.14	1.0222	-0.0604	0.3549	-0.0595	0.3672
3	90.16	1.0189	-0.0632	0.3559	-0.0620	0.3693
4	91.17	1.0137	-0.0658	0.3544	-0.0649	0.3696
5	92.17	1.0040	-0.0679	0.3548	-0.0673	0.3516
6	93.16	1.0002	-0.0703	0.3541	-0.0703	0.3540
7	94.14	0.9972	-0.0726	0.3526	-0.0740	0.3536
8	96.16	0.9876	-0.0780	0.3532	-0.0790	0.3578
9	98.15	0.9835	-0.0828	0.3582	-0.0882	0.3688
10	100.16	0.9780	-0.0872	0.3557	-0.0991	0.3637
11	102.16	0.9825	-0.0936	0.3560	-0.0952	0.3623
12	104.15	0.9798	-0.0980	0.3565	-0.1001	0.3639
13	106.15	0.9735	-0.1021	0.3576	-0.1049	0.3678
14	108.15	0.9681	-0.1065	0.3551	-0.1101	0.3668
15	110.15	0.9715	-0.1115	0.3589	-0.1147	0.3693
16	112.15	0.9702	-0.1156	0.3577	-0.1192	0.3687
17	114.15	0.9684	-0.1190	0.3587	-0.1233	0.3676
18	116.17	0.9523	-0.1212	0.3524	-0.1273	0.3701
19	117.16	0.9461	-0.1220	0.3505	-0.1289	0.3706

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH. #A10-6 CONE TRANSITION

2 212 0.80 2.5 F36 FREE

POINT	ALPHA	CNT	Cm	Cn	ACPF	YCPF
1	118.00	0.8430	-0.1187	0.3343	-0.1315	0.3701
2	119.04	0.8443	-0.1193	0.3322	-0.1334	0.3715
3	120.25	0.8455	-0.1210	0.3323	-0.1350	0.3719
4	121.06	0.8492	-0.1224	0.3335	-0.1367	0.3708
5	122.28	0.8460	-0.1237	0.3406	-0.1383	0.3698
6	123.05	0.8452	-0.1255	0.3319	-0.1402	0.3708
7	124.05	0.8445	-0.1258	0.3243	-0.1416	0.3695
8	124.76	0.8491	-0.1277	0.3253	-0.1453	0.3701
9	125.05	0.8464	-0.1307	0.3243	-0.1491	0.3698
10	130.05	0.8685	-0.1326	0.3217	-0.1527	0.3704
11	132.06	0.8696	-0.1356	0.3215	-0.1561	0.3696
12	134.06	0.8666	-0.1374	0.3221	-0.1595	0.3726
13	135.17	0.8645	-0.1403	0.3211	-0.1623	0.3714
14	138.05	0.8570	-0.1442	0.3237	-0.1741	0.3777
15	139.16	0.8622	-0.1503	0.3291	-0.1812	0.3817
16	142.06	0.8415	-0.1619	0.3261	-0.1924	0.3899
17	144.04	0.8138	-0.1676	0.3259	-0.2059	0.4004
18	146.04	0.7407	-0.1716	0.3219	-0.2171	0.4071
19	147.05	0.7761	-0.1711	0.3167	-0.2210	0.4092



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MANTIC MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART PALM RX10-6 CONF TRANSITION

2 213 0.60 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CM	XCPCF	YCPCF
1	147.91	0.7657	-0.1648	0.3133	-0.2218	0.4091
2	148.95	0.7445	-0.1679	0.3067	-0.2239	0.4092
3	149.96	0.7222	-0.1634	0.2970	-0.2262	0.4112
4	150.97	0.6983	-0.1590	0.2855	-0.2277	0.4089
5	151.97	0.6679	-0.1533	0.2712	-0.2296	0.4061
6	152.98	0.6380	-0.1480	0.2618	-0.2320	0.4103
7	153.97	0.6104	-0.1430	0.2509	-0.2342	0.4111
8	155.99	0.5519	-0.1321	0.2272	-0.2394	0.4117
9	156.00	0.4911	-0.1208	0.2044	-0.2459	0.4161
10	159.94	0.4337	-0.1098	0.1815	-0.2532	0.4184
11	162.00	0.3763	-0.0987	0.1588	-0.2623	0.4220
12	164.01	0.3211	-0.0874	0.1376	-0.2733	0.4284
13	166.02	0.2680	-0.0767	0.1162	-0.2864	0.4337
14	168.03	0.2147	-0.0662	0.0957	-0.3026	0.4376
15	170.04	0.1726	-0.0550	0.0762	-0.3183	0.4411
16	172.06	0.1315	-0.0440	0.0587	-0.3348	0.4464
17	173.16	0.1083	-0.0377	0.0477	-0.3460	0.4483
18	176.10	0.0574	-0.0221	0.0261	-0.3857	0.4540
19	177.09	0.0401	-0.0170	0.0214	-0.4229	0.5335

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MAINTIY MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART PALM RA10-6 CONF. TRANSITION

2 214 0.80 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CA	XCOP	YCOP	
1	178.00	0.0285	-0.0123	0.0160	-0.4314	0.5613	
2	179.00	0.0176	-0.0060	0.0116	-0.4494	0.6502	
3	180.01	0.0069	-0.0038	0.0072	-0.5535	1.0376	
4	180.99	-0.0039	0.0000	0.0035	-0.0129	-0.9072	
5	182.02	-0.0113	0.0035	-0.0009	-0.3086	0.0794	
6	183.01	-0.0213	0.0074	-0.0050	-0.3469	0.2362	
7	184.01	-0.0315	0.0115	-0.0097	-0.3610	0.3030	
8	186.03	-0.0604	0.0215	-0.0204	-0.3534	0.3370	

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PMT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART MACH. HALL-6 CONF. TRANSITION  
 2 P15 0.65 2.5 F36 FREE

POINT	ALPHA	CNP	CM	Cc	XCPF	YCPF
1	-2.03	-0.0306	0.0001	-0.0128	-0.0026	0.4206
2	-0.97	-0.0157	-0.0002	-0.0068	0.0147	0.4343
3	0.02	-0.0006	-0.0003	-0.0001	0.0516	0.0110
4	1.04	0.0042	-0.0004	0.0059	-0.0931	1.4057
5	2.09	0.0156	-0.0006	0.0101	-0.0923	0.6597
6	3.04	0.0260	-0.0007	0.0164	-0.0273	0.6284
7	4.05	0.0494	-0.0012	0.0220	-0.0301	0.5524
8	6.07	0.0663	-0.0032	0.0374	-0.0394	0.4701
9	8.07	0.1227	-0.0043	0.0542	-0.0349	0.4418
10	10.10	0.1706	-0.0052	0.0669	-0.0306	0.3921
11	12.11	0.2436	-0.0065	0.0834	-0.0295	0.3731
12	14.13	0.2655	-0.0083	0.0978	-0.0292	0.3426
13	16.15	0.3453	-0.0092	0.1132	-0.0266	0.3279
14	18.18	0.4124	-0.0092	0.1317	-0.0223	0.3195
15	20.20	0.4789	-0.0090	0.1495	-0.0180	0.3147
16	22.22	0.5392	-0.0093	0.1682	-0.0173	0.3125
17	24.25	0.6003	-0.0093	0.1877	-0.0155	0.3128
18	26.29	0.6616	-0.0092	0.2040	-0.0139	0.3084
19	27.29	0.6968	-0.0089	0.2117	-0.0127	0.3040

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

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MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH PX10-6 CONF TRANSITION

2 217 0.00 2.5 F36 FREE

POINT	ALPHA	CNF	CN	Cm	ACPF	VCPF
1	28.10	0.7116	-0.0071	0.2151	-0.0100	0.3022
2	29.20	0.7420	-0.0005	0.2237	-0.0087	0.3013
3	30.24	0.7730	-0.0059	0.2295	-0.0076	0.2969
4	31.20	0.8000	-0.0050	0.2370	-0.0063	0.2905
5	32.20	0.8270	-0.0041	0.2439	-0.0050	0.2907
6	33.27	0.8541	-0.0030	0.2508	-0.0035	0.2923
7	34.24	0.8820	-0.0012	0.2575	-0.0014	0.2917
8	36.30	0.9263	0.0030	0.2604	0.0033	0.2876
9	38.32	0.9231	0.0170	0.2570	0.0193	0.2780
10	40.31	0.8747	0.0203	0.2431	0.0276	0.2764
11	42.34	0.9202	0.0221	0.2605	0.0239	0.2819
12	44.35	0.9563	0.0220	0.2703	0.0234	0.2827
13	46.30	0.9000	0.0232	0.2750	0.0200	0.2857
14	48.33	0.9577	-0.0019	0.2916	-0.0020	0.3044
15	50.33	0.9002	-0.0009	0.2976	-0.0092	0.3070
16	52.35	0.9050	-0.0131	0.3071	-0.0133	0.3110
17	54.35	1.0072	-0.0153	0.3151	-0.0152	0.3129
18	56.37	1.0203	-0.0170	0.3249	-0.0169	0.3160
19	57.37	1.0309	-0.0105	0.3206	-0.0170	0.3163

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

## YESI PARI MACH PA10-5 CONF. TRANSITION

2      21R 0.85 2.5      F30      FREE

POINT	ALPHA	CNF	CN	CN	XCPCF	YCPCF
1	58.26	1.0165	-0.0147	0.3241	-0.0144	0.3188
2	59.25	1.0263	-0.0211	0.3272	-0.0206	0.3188
3	60.26	1.0311	-0.0225	0.3300	-0.0218	0.3200
4	61.26	1.0326	-0.0237	0.3314	-0.0229	0.3210
5	62.26	1.0376	-0.0248	0.3347	-0.0239	0.3225
6	63.26	1.0416	-0.0247	0.3361	-0.0252	0.3226
7	64.25	1.0451	-0.0275	0.3387	-0.0263	0.3241
8	66.27	1.0466	-0.0305	0.3405	-0.0291	0.3253
9	68.27	1.0506	-0.0324	0.3429	-0.0312	0.3262
10	70.26	1.0536	-0.0341	0.3465	-0.0324	0.3289
11	71.39	1.0552	-0.0353	0.3489	-0.0335	0.3306
12	74.26	1.0602	-0.0367	0.3516	-0.0365	0.3316
13	76.26	1.0567	-0.0406	0.3523	-0.0384	0.3340
14	78.28	1.0690	-0.0441	0.3589	-0.0412	0.3357
15	80.25	1.0771	-0.0473	0.3625	-0.0439	0.3365
16	82.24	1.0858	-0.0509	0.3675	-0.0469	0.3384
17	84.30	1.0901	-0.0557	0.3715	-0.0511	0.3408
18	86.31	1.0963	-0.0544	0.3760	-0.0543	0.3430
19	87.30	1.0939	-0.0610	0.3764	-0.0558	0.3441

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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NAVYIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME: RX10-6 CONF. TRANSITION

2 219 0.00 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CH	XCPX	YCPY
1	89.14	1.0494	-0.0598	0.3622	-0.0570	0.3651
2	89.15	1.0476	-0.0615	0.3603	-0.0589	0.3656
3	90.17	1.0400	-0.0634	0.3617	-0.0614	0.3678
4	91.17	1.0294	-0.0658	0.3546	-0.0639	0.3693
5	92.17	1.0242	-0.0656	0.3603	-0.0667	0.3504
6	93.17	1.0191	-0.0715	0.3575	-0.0701	0.3508
7	94.17	1.0194	-0.0740	0.3617	-0.0725	0.3537
8	96.17	1.0067	-0.0744	0.3587	-0.0789	0.3563
9	98.17	0.9990	-0.0830	0.3586	-0.0837	0.3589
10	100.17	0.9999	-0.0841	0.3620	-0.0881	0.3620
11	102.17	0.9942	-0.0942	0.3577	-0.0948	0.3598
12	104.17	0.9943	-0.0948	0.3617	-0.0994	0.3638
13	106.17	0.9944	-0.1032	0.3621	-0.1042	0.3659
14	108.17	0.9962	-0.1062	0.3604	-0.1097	0.3655
15	110.16	0.9947	-0.1123	0.3523	-0.1148	0.3679
16	112.17	0.9994	-0.1170	0.3649	-0.1182	0.3688
17	114.17	0.9834	-0.1211	0.3610	-0.1231	0.3669
18	116.18	0.9845	-0.1224	0.3581	-0.1268	0.3698
19	117.18	0.9837	-0.1239	0.3567	-0.1286	0.3701

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MAINTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH 0.6 CONF TRANSITION

2 220 U.S.S. 2.5 F36 FREE

POINT	ALPHA	CNF	CM	Co	XCFF	YCFF
1	118.01	0.4122	-0.1203	0.3387	-0.1319	0.3713
2	119.01	0.4042	-0.1215	0.3367	-0.1336	0.3703
3	120.01	0.3986	-0.1230	0.3349	-0.1355	0.3688
4	121.07	0.3913	-0.1250	0.3355	-0.1371	0.3681
5	122.07	0.3835	-0.1259	0.3325	-0.1388	0.3688
6	123.06	0.3785	-0.1262	0.3306	-0.1405	0.3680
7	124.06	0.3742	-0.1277	0.3288	-0.1422	0.3661
8	126.06	0.3685	-0.1295	0.3275	-0.1458	0.3686
9	128.06	0.3663	-0.1323	0.3266	-0.1493	0.3685
10	130.06	0.3739	-0.1336	0.3218	-0.1529	0.3682
11	132.07	0.3732	-0.1360	0.3229	-0.1558	0.3697
12	134.07	0.3666	-0.1375	0.3207	-0.1590	0.3703
13	136.08	0.3672	-0.1400	0.3181	-0.1634	0.3711
14	138.08	0.3647	-0.1436	0.3159	-0.1700	0.3740
15	140.05	0.3616	-0.1514	0.3182	-0.1799	0.3781
16	142.05	0.3606	-0.1562	0.3179	-0.1880	0.3827
17	144.06	0.3611	-0.1634	0.3217	-0.2012	0.3962
18	146.06	0.3602	-0.1673	0.3152	-0.2144	0.4040
19	147.06	0.3675	-0.1686	0.3127	-0.2196	0.4074

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME: MX10-9 CONF. TRANSITION

2 221 0.65 2.5 F36 FREE

POINT	ALPHA	CNF	CH	CH	YC	YCPF	YCPF
1	147.90	0.7047	-0.1677	0.3102	-0.2193	0.4057	
2	148.97	0.7494	-0.1672	0.3048	-0.2230	0.4064	
3	149.96	0.7404	-0.1646	0.2969	-0.2252	0.4063	
4	150.97	0.7072	-0.1607	0.2868	-0.2272	0.4055	
5	151.97	0.6752	-0.1549	0.2742	-0.2294	0.4061	
6	152.98	0.6473	-0.1503	0.2638	-0.2322	0.4076	
7	153.96	0.6184	-0.1447	0.2529	-0.2339	0.4090	
8	154.94	0.5803	-0.1333	0.2285	-0.2378	0.4079	
9	157.99	0.5015	-0.1222	0.2061	-0.2437	0.4109	
10	160.00	0.4366	-0.1099	0.1820	-0.2516	0.4166	
11	162.01	0.3807	-0.0993	0.1587	-0.2610	0.4178	
12	164.02	0.3246	-0.0888	0.1347	-0.2718	0.4246	
13	166.03	0.2732	-0.0786	0.1175	-0.2877	0.4302	
14	168.04	0.2242	-0.0676	0.0954	-0.3015	0.4255	
15	170.04	0.1761	-0.0564	0.0765	-0.3201	0.4343	
16	172.07	0.1345	-0.0452	0.0583	-0.3357	0.4338	
17	174.08	0.0916	-0.0333	0.0406	-0.3631	0.4423	
18	176.09	0.0543	-0.0227	0.0257	-0.3829	0.4331	
19	177.10	0.0446	-0.0176	0.0194	-0.3967	0.4327	



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PAID. NAME PA10-6 CONF TRANSITION  
 2 222 0.85 2.5 F36 FREE

POINT	ALPHA	CNF	Cm	Cd	XCPF	YCPF
1	174.00	0.0306	-0.0122	0.0129	-0.3960	0.4196
2	174.98	0.0187	-0.0060	0.0098	-0.4257	0.5235
3	179.99	0.0105	-0.0060	0.0053	-0.3805	0.5019
4	180.98	-0.0030	0.0003	0.0017	-0.0960	-0.5563
5	182.01	-0.0096	0.0037	-0.0029	-0.3876	0.3057
6	183.03	-0.0203	0.0074	-0.0077	-0.3849	0.7820
7	184.04	-0.0415	0.0121	-0.0126	-0.3853	0.3990
8	186.01	-0.0592	0.0219	-0.0261	-0.3702	0.4067

ARMED ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

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MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART -ACH PA10-S CONF. TRANSITION

2 223 0.92 2.5 F36 FREE

POINT	ALPHA	CNP	CM	CC	* XCPF	YCPF		
1	-2.04	-0.0334	-0.0000	-0.0138	0.0003	0.4121		
2	-0.97	-0.0172	-0.0003	-0.0103	0.0174	0.4823		
3	0.03	-0.0061	-0.0003	-0.0019	0.0322	0.1708		
4	1.04	0.0647	-0.0006	0.0029	-0.1239	0.6085		
5	2.04	0.0157	-0.0006	0.0079	-0.0540	0.4711		
6	3.04	0.0250	-0.0008	0.0143	-0.0316	0.5722		
7	4.05	0.0463	-0.0010	0.0192	-0.0270	0.5294		
8	6.07	0.0742	-0.0027	0.0359	-0.0368	0.4843		
9	8.08	0.1101	-0.0044	0.0499	-0.0369	0.4227		
10	10.10	0.1646	-0.0058	0.0637	-0.0346	0.3770		
11	12.12	0.2223	-0.0073	0.0797	-0.0330	0.3584		
12	14.13	0.2815	-0.0094	0.0949	-0.0333	0.3373		
13	16.16	0.3443	-0.0106	0.1114	-0.0338	0.3237		
14	18.18	0.4075	-0.0114	0.1293	-0.0279	0.3173		
15	20.20	0.4712	-0.0113	0.1467	-0.0239	0.3113		
16	22.24	0.5342	-0.0119	0.1658	-0.0220	0.3093		
17	24.28	0.5974	-0.0123	0.1848	-0.0206	0.3092		
18	26.30	0.6622	-0.0129	0.2043	-0.0195	0.3084		
19	27.34	0.6435	-0.0123	0.2120	-0.0177	0.3057		

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PARAMETER M10-6 CONF TRANSITION

2 224 0.42 2.5 F36 FREE

POINT	ALPHA	CMP	CM	Co	ACPF	YCPF
1	23.17	0.7271	-0.0102	0.2225	-0.0141	0.3060
2	24.25	0.7449	-0.0087	0.2266	-0.0116	0.3020
3	30.24	0.7555	-0.0087	0.2355	-0.0110	0.2997
4	31.26	0.8153	-0.0080	0.2432	-0.0098	0.2983
5	32.27	0.8444	-0.0084	0.2502	-0.0082	0.2962
6	33.28	0.8727	-0.0080	0.2585	-0.0069	0.2963
7	34.24	0.8437	-0.0140	0.2529	-0.0084	0.2941
8	35.33	0.9364	0.0029	0.2682	0.0031	0.2868
9	38.33	0.9216	0.0166	0.2569	0.0178	0.2788
10	40.34	0.9106	0.0127	0.2540	0.0249	0.2789
11	42.36	0.9371	0.0284	0.2668	0.0218	0.2867
12	44.37	0.9660	0.0203	0.2781	0.0210	0.2879
13	46.36	0.9805	0.0149	0.2854	0.0202	0.2915
14	48.35	0.9556	-0.0056	0.2964	-0.0058	0.3077
15	50.35	0.9721	-0.0134	0.3036	-0.0138	0.3121
16	52.37	0.9742	-0.0156	0.3139	-0.0155	0.3157
17	54.39	1.0206	-0.0171	0.3227	-0.0168	0.3163
18	55.50	1.0344	-0.0145	0.3299	-0.0178	0.3188
19	57.40	1.0541	-0.0205	0.3383	-0.0196	0.3196

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

PAGE 1 OF 1

MANITIA MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH 2.5-6.0 CONF. TRANSITION

2 225 0.94 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CD	YCPF	YCPF
1	58.22	1.0599	-0.0227	0.3371	-0.0215	0.3197
2	59.29	1.0547	-0.0233	0.3406	-0.0220	0.3214
3	60.29	1.0471	-0.0243	0.3423	-0.0228	0.3208
4	61.29	1.0726	-0.0250	0.3453	-0.0233	0.3219
5	62.29	1.0742	-0.0251	0.3468	-0.0234	0.3247
6	63.29	1.0724	-0.0256	0.3479	-0.0239	0.3242
7	64.31	1.0736	-0.0269	0.3527	-0.0249	0.3256
8	66.30	1.0660	-0.0249	0.3553	-0.0275	0.3272
9	68.29	1.0603	-0.0335	0.3567	-0.0310	0.3284
10	70.31	1.0674	-0.0340	0.3604	-0.0313	0.3314
11	72.31	1.0691	-0.0373	0.3643	-0.0341	0.3329
12	74.31	1.1030	-0.0403	0.3677	-0.0366	0.3334
13	76.31	1.1115	-0.0425	0.3689	-0.0386	0.3349
14	78.33	1.1120	-0.0454	0.3711	-0.0412	0.3367
15	80.33	1.1172	-0.0484	0.3701	-0.0433	0.3385
16	82.33	1.1183	-0.0524	0.3712	-0.0469	0.3409
17	84.33	1.1206	-0.0571	0.3726	-0.0510	0.3414
18	86.34	1.1237	-0.0613	0.3865	-0.0545	0.3440
19	87.34	1.1255	-0.0635	0.3473	-0.0564	0.3441

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART: WACH PX10-6 CURF TRANSITION

2 224 0.94 2.5 F36 FREE

POINT	ALPHA	CNF	CN	Cs	XCPF	YCPF
1	84.15	1.0273	-0.0225	0.3746	-0.0576	0.3446
2	89.16	1.0767	-0.0220	0.3723	-0.0594	0.3453
3	90.20	1.0764	-0.0267	0.3730	-0.0619	0.3465
4	91.21	1.0724	-0.0281	0.3722	-0.0635	0.3470
5	92.21	1.0691	-0.0299	0.3748	-0.0657	0.3476
6	93.20	1.0586	-0.0717	0.3703	-0.0677	0.3497
7	94.20	1.0530	-0.0744	0.3695	-0.0702	0.3509
8	96.14	1.0413	-0.0774	0.3683	-0.0748	0.3537
9	98.14	1.0297	-0.0825	0.3664	-0.0802	0.3561
10	100.14	1.0300	-0.0821	0.3701	-0.0855	0.3593
11	102.14	1.0261	-0.0944	0.3694	-0.0912	0.3600
12	104.14	1.0186	-0.0944	0.3693	-0.0971	0.3620
13	106.14	1.0202	-0.1234	0.3725	-0.1014	0.3651
14	108.14	1.0155	-0.1044	0.3700	-0.1082	0.3643
15	110.14	1.0132	-0.1154	0.3731	-0.1129	0.3683
16	112.16	1.0124	-0.1145	0.3717	-0.1170	0.3669
17	114.20	1.0064	-0.1225	0.3703	-0.1217	0.3680
18	116.20	1.0014	-0.1264	0.3711	-0.1262	0.3706
19	117.20	0.9984	-0.1279	0.3708	-0.1261	0.3714

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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NAWT-4 MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONE TRANSITION

2 227 0.94 2.5 F36 FREE

POINT	ALPHA	CNP	CM	CS	XCPF	YCPF	* *
1	118.00	0.9270	-0.1228	0.3309	-0.1324	0.3742	
2	119.00	0.9256	-0.1242	0.3347	-0.1342	0.3724	
3	120.01	0.9261	-0.1255	0.3430	-0.1356	0.3704	
4	121.07	0.9196	-0.1264	0.3407	-0.1375	0.3704	
5	122.07	0.9165	-0.1279	0.3392	-0.1395	0.3701	
6	123.07	0.9104	-0.1284	0.3374	-0.1410	0.3704	
7	124.06	0.9171	-0.1310	0.3398	-0.1428	0.3705	
8	126.06	0.9052	-0.1327	0.3364	-0.1466	0.3717	
9	128.06	0.8986	-0.1345	0.3342	-0.1498	0.3719	
10	130.06	0.8843	-0.1361	0.3299	-0.1530	0.3710	
11	132.07	0.8755	-0.1362	0.3228	-0.1556	0.3688	
12	134.07	0.8646	-0.1377	0.3201	-0.1584	0.3681	
13	136.06	0.8650	-0.1396	0.3188	-0.1614	0.3685	
14	138.07	0.8546	-0.1412	0.3160	-0.1652	0.3690	
15	139.10	0.8480	-0.1424	0.3139	-0.1679	0.3701	
16	142.08	0.8296	-0.1473	0.3092	-0.1775	0.3720	
17	144.07	0.8084	-0.1537	0.3111	-0.1901	0.3844	
18	146.06	0.8085	-0.1662	0.3202	-0.2080	0.3961	
19	147.06	0.7970	-0.1706	0.3179	-0.2140	0.3989	

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

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MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART: MACH RND-6 CONE TRANSITION

2 22R 0.42 2.5 F36 FREE

POINT	ALPHA	CNF	Cn	Cz	KCPX	KCPY
1	147.90	0.1764	-0.1717	0.3193	-0.2160	0.4017
2	148.97	0.1767	-0.1709	0.3116	-0.2193	0.4013
3	149.96	0.1758	-0.1681	0.3059	-0.2215	0.4032
4	150.96	0.1750	-0.1643	0.2951	-0.2235	0.4015
5	151.97	0.1754	-0.1600	0.2852	-0.2267	0.4041
6	152.98	0.1745	-0.1558	0.2769	-0.2292	0.4075
7	153.97	0.1716	-0.1510	0.2681	-0.2317	0.4051
8	155.95	0.1657	-0.1404	0.2395	-0.2356	0.4020
9	157.94	0.1530	-0.1280	0.2139	-0.2413	0.4034
10	160.00	0.1401	-0.1151	0.1883	-0.2479	0.4057
11	162.00	0.1280	-0.1110	0.1696	-0.2706	0.4137
12	164.01	0.1357	-0.1002	0.1470	-0.2825	0.4145
13	166.02	0.2457	-0.0471	0.1245	-0.2946	0.4210
14	168.03	0.2412	-0.0741	0.1014	-0.3073	0.4205
15	170.05	0.1426	-0.0615	0.0791	-0.3194	0.4105
16	172.07	0.1424	-0.0443	0.0602	-0.3392	0.4226
17	174.08	0.1625	-0.0363	0.0415	-0.3530	0.4039
18	176.10	0.0637	-0.0244	0.0278	-0.3825	0.4363
19	177.11	0.0584	-0.0192	0.0245	-0.3512	0.4075

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (4T)

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MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME R410-6 CONF. TRANSITION

2 229 0.92 2.5 F36 FREE

POINT	ALPHA	CNF	CN	CM	ACPF	YCPF	
1	177.97	0.0384	-0.0145	0.0152	-0.3780	0.3970	
2	175.04	0.0256	-0.0045	0.0045	-0.3733	0.3710	
3	180.04	0.0161	-0.0052	0.0054	-0.3246	0.3333	
4	161.04	0.0054	-0.0014	0.0011	-0.2578	0.2026	
5	182.05	-0.0048	0.0025	-0.0030	-0.5364	0.6279	
6	183.05	-0.0173	0.0070	-0.0068	-0.4036	0.3915	
7	184.06	-0.0267	0.0112	-0.0119	-0.4196	0.4405	
8	166.07	-0.0536	0.0214	-0.0224	-0.3989	0.4185	
9	189.04	-0.0906	0.0338	-0.0301	-0.3714	0.4424	



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART: MALM BX10-5 CONF. TRANSITION

2 230 0.48 2.5 F36 FREE

POINT	ALPHA	CNF	CN	C <sub>x</sub>	XCNF	YCNF
1	-2.03	-0.0053	-0.0005	-0.0144	0.0179	0.5458
2	-0.97	-0.0110	-0.0011	-0.0079	0.1005	0.7130
3	0.02	-0.0004	-0.0004	-0.0025	0.0067	2.7667
4	1.05	0.0107	-0.0011	0.0021	-0.0986	0.1972
5	2.05	0.0223	-0.0013	0.0081	-0.0591	0.3625
6	3.05	0.0331	-0.0014	0.0136	-0.0416	0.4153
7	4.08	0.0477	-0.0014	0.0207	-0.0394	0.4338
8	6.07	0.0641	-0.0044	0.0444	-0.0496	0.4308
9	8.09	0.1362	-0.0064	0.0525	-0.0467	0.3850
10	10.10	0.1833	-0.0080	0.0677	-0.0437	0.3692
11	12.13	0.2495	-0.0106	0.0859	-0.0441	0.3587
12	14.15	0.3008	-0.0131	0.1017	-0.0434	0.3380
13	16.17	0.3693	-0.0160	0.1194	-0.0434	0.3233
14	18.19	0.4353	-0.0181	0.1382	-0.0417	0.3174
15	20.22	0.5026	-0.0199	0.1578	-0.0396	0.3144
16	22.25	0.5685	-0.0212	0.1780	-0.0372	0.3131
17	24.28	0.6326	-0.0224	0.1980	-0.0354	0.3130
18	26.30	0.6963	-0.0231	0.2167	-0.0332	0.3111
19	27.32	0.7243	-0.0229	0.2258	-0.0314	0.3097

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST MARTIN PXL0-6 CONE TRANSITION

2 231 0.96 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CH	ACPF	YCPF
1	28.16	0.7424	-0.0245	0.2328	-0.0334	0.3136
2	29.24	0.7771	-0.0253	0.2428	-0.0326	0.3125
3	30.25	0.8088	-0.0255	0.2501	-0.0315	0.3093
4	31.27	0.8394	-0.0253	0.2543	-0.0302	0.3076
5	32.28	0.8703	-0.0251	0.2668	-0.0289	0.3065
6	33.26	0.8986	-0.0237	0.2738	-0.0264	0.3047
7	34.29	0.9224	-0.0211	0.2800	-0.0229	0.3036
8	36.32	0.9572	-0.0120	0.2838	-0.0126	0.2965
9	38.34	0.9547	0.0033	0.2770	0.0035	0.2889
10	40.36	0.9665	0.0119	0.2749	0.0123	0.2865
11	42.38	0.9816	0.0146	0.2618	0.0149	0.2873
12	44.36	0.9983	0.0167	0.2401	0.0147	0.2906
13	46.46	1.0164	0.0137	0.2488	0.0136	0.2956
14	48.40	1.0284	0.0126	0.3050	0.0122	0.2966
15	50.34	1.0224	-0.0095	0.3173	-0.0094	0.3108
16	52.34	1.0345	-0.0141	0.3237	-0.0136	0.3117
17	54.41	1.0580	-0.0162	0.3365	-0.0178	0.3181
18	56.43	1.0450	-0.0219	0.3496	-0.0200	0.3193
19	57.44	1.1088	-0.0231	0.3543	-0.0209	0.3195

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART PALM R410-6 CONE TRANSITION

2 234 0.44 2.5 F36 FREE

POINT	ALPHA	C <sub>MP</sub>	C <sub>M</sub>	C <sub>D</sub>	XCPF	YCPF
1	50.24	1.1011	-0.0235	0.3547	-0.0216	0.3221
2	54.30	1.1042	-0.0250	0.3555	-0.0226	0.3220
3	60.29	1.1102	-0.0260	0.3590	-0.0234	0.3234
4	61.31	1.1157	-0.0271	0.3626	-0.0243	0.3250
5	62.31	1.1214	-0.0284	0.3652	-0.0254	0.3247
6	63.31	1.1216	-0.0295	0.3651	-0.0263	0.3255
7	64.30	1.1232	-0.0307	0.3662	-0.0273	0.3261
8	66.31	1.1316	-0.0329	0.3705	-0.0291	0.3274
9	68.31	1.1362	-0.0351	0.3727	-0.0309	0.3280
10	70.33	1.1433	-0.0368	0.3775	-0.0322	0.3302
11	72.33	1.1541	-0.0394	0.3829	-0.0342	0.3317
12	74.33	1.1552	-0.0415	0.3852	-0.0359	0.3335
13	76.33	1.1535	-0.0444	0.3856	-0.0385	0.3352
14	78.34	1.1552	-0.0464	0.3895	-0.0403	0.3372
15	80.34	1.1530	-0.0484	0.3911	-0.0420	0.3392
16	82.35	1.1512	-0.0515	0.3921	-0.0448	0.3406
17	84.36	1.1608	-0.0559	0.3960	-0.0481	0.3411
18	86.36	1.1672	-0.0602	0.4004	-0.0515	0.3430
19	87.35	1.1654	-0.0631	0.4040	-0.0539	0.3455

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH 0.10-6.00W TRANSITION

2 235 0.00 2.5 F36 FREE

POINT	ALPHA	CNP	CN	CM	ACPF	YCPF
1	58.16	1.1451	-0.1654	0.3416	-0.0578	0.3450
2	69.15	1.1354	-0.0680	0.3433	-0.0549	0.3463
3	90.14	1.1437	-0.0597	0.3449	-0.0515	0.3483
4	91.21	1.1305	-0.0723	0.3460	-0.0640	0.3486
5	92.21	1.1198	-0.0734	0.3414	-0.0660	0.3496
6	93.21	1.1184	-0.0754	0.3412	-0.0676	0.3498
7	94.21	1.1171	-0.0764	0.3443	-0.0630	0.3507
8	94.20	1.0944	-0.0824	0.3569	-0.0754	0.3534
9	98.19	1.0724	-0.0875	0.3664	-0.0808	0.3569
10	100.20	1.0414	-0.0925	0.3472	-0.0855	0.3580
11	102.20	1.0434	-0.0976	0.3413	-0.0900	0.3610
12	104.19	1.0264	-0.1030	0.3498	-0.0954	0.3609
13	106.19	1.0444	-0.1071	0.3569	-0.1006	0.3634
14	108.20	1.0424	-0.1134	0.3434	-0.1052	0.3633
15	110.20	1.0657	-0.1170	0.3402	-0.1097	0.3661
16	112.20	1.0723	-0.1217	0.3412	-0.1135	0.3648
17	114.21	1.0714	-0.1257	0.3421	-0.1173	0.3658
18	116.21	1.0765	-0.1300	0.3461	-0.1207	0.3679
19	117.21	1.0680	-0.1315	0.3419	-0.1231	0.3670

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART MACH HALF-ANGLE CONF TRANSITION  
 2      236 0.48 2.5      F36      FREE

POINT	ALPHA	CNF	CN	CN	XCPCF	YCPCF
1	118.03	1.0031	-0.1280	0.3714	-0.1276	0.3703
2	119.71	1.0015	-0.1294	0.3703	-0.1292	0.3698
3	120.91	1.0029	-0.1310	0.3695	-0.1306	0.3685
4	121.06	1.0040	-0.1330	0.3705	-0.1325	0.3690
5	122.07	1.0011	-0.1353	0.3656	-0.1342	0.3682
6	123.05	1.0047	-0.1364	0.3715	-0.1358	0.3698
7	124.07	0.9955	-0.1377	0.3688	-0.1379	0.3694
8	126.06	1.0034	-0.1411	0.3725	-0.1405	0.3711
9	128.97	1.0001	-0.1439	0.3690	-0.1439	0.3689
10	130.07	0.9874	-0.1455	0.3647	-0.1473	0.3691
11	132.07	0.9856	-0.1487	0.3637	-0.1510	0.3692
12	134.07	0.9884	-0.1488	0.3533	-0.1552	0.3685
13	136.07	0.9803	-0.1518	0.3530	-0.1597	0.3715
14	138.07	0.9374	-0.1547	0.3441	-0.1650	0.3722
15	140.07	0.9254	-0.1705	0.3046	-0.1785	0.3816
16	142.06	0.9388	-0.1763	0.3643	-0.1999	0.3881
17	144.06	0.9215	-0.1846	0.3541	-0.2003	0.3950
18	146.07	0.8961	-0.1830	0.3549	-0.2042	0.3961
19	147.07	0.8724	-0.1806	0.3457	-0.2070	0.3962

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONE TRANSITION

2 237 0.90 2.5 F36 FREE

POINT	ALPHA	CNF	CN	CN	XCPC	YCPC
1	147.89	0.4730	-0.1862	0.3477	-0.2133	0.3983
2	144.96	0.4472	-0.1632	0.3376	-0.2162	0.3985
3	149.95	0.4176	-0.1789	0.3249	-0.2188	0.4022
4	150.96	0.7129	-0.1666	0.3085	-0.2155	0.3992
5	151.97	0.7425	-0.1624	0.2956	-0.2187	0.3981
6	152.96	0.7237	-0.1601	0.2918	-0.2267	0.4032
7	153.96	0.6956	-0.1547	0.2803	-0.2298	0.4033
8	155.97	0.6491	-0.1505	0.2527	-0.2392	0.4018
9	157.94	0.5872	-0.1405	0.2250	-0.2478	0.3984
10	160.00	0.4945	-0.1274	0.2115	-0.2576	0.4075
11	162.01	0.4257	-0.1139	0.1727	-0.2675	0.4058
12	164.01	0.3632	-0.1007	0.1475	-0.2773	0.4061
13	166.02	0.3024	-0.0871	0.1233	-0.2881	0.4075
14	168.04	0.2446	-0.0737	0.0997	-0.3013	0.4076
15	170.05	0.1916	-0.0603	0.0767	-0.3144	0.4006
16	172.07	0.1436	-0.0475	0.0569	-0.3305	0.3954
17	174.09	0.1112	-0.0350	0.0387	-0.3442	0.3883
18	176.11	0.0645	-0.0234	0.0245	-0.3630	0.3802
19	177.11	0.0203	-0.0182	0.0194	-0.3615	0.3661

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NACH RX10-6 CONF TRANSITION

2 230 0.98 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CP	XCPF	YCPF
1	177.97	0.0443	-0.0155	0.0153	-0.3487	0.3453
2	179.03	0.0304	-0.0104	0.0093	-0.3421	0.3066
3	180.04	0.0190	-0.0059	0.0049	-0.3132	0.2608
4	181.05	0.0101	-0.0022	0.0015	-0.2132	0.1538
5	182.06	-0.0026	0.0022	-0.0035	-0.8533	1.3745
6	183.04	-0.0127	0.0063	-0.0080	-0.4968	0.6317
7	184.07	-0.0437	0.0104	-0.0129	-0.4567	0.5454
8	186.08	-0.0513	0.0210	-0.0228	-0.4099	0.4452

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MANTIC MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART: PACH PA10-R CONF. TRANSITION

2 240 1.10 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CL	XCPCF	YCPCF
1	-2.04	-0.0415	0.0009	-0.0142	-0.0301	0.5764
2	-0.46	-0.0160	0.0001	-0.0112	-0.0044	0.7021
3	0.03	-0.0054	-0.0002	-0.0049	0.0065	0.9126
4	1.06	0.0106	-0.0015	-0.0006	-0.1000	-0.0577
5	2.05	0.0225	-0.0014	0.0062	-0.0455	0.2747
6	3.06	0.0344	-0.0025	0.0124	-0.0720	0.3587
7	4.06	0.0493	-0.0035	0.0191	-0.0703	0.3862
8	6.08	0.0650	-0.0050	0.0359	-0.0680	0.4180
9	8.10	0.1304	-0.0095	0.0515	-0.0654	0.3948
10	10.12	0.1004	-0.0112	0.0668	-0.0617	0.3692
11	12.14	0.2330	-0.0130	0.0823	-0.0543	0.3523
12	14.14	0.2920	-0.0173	0.0986	-0.0589	0.3367
13	16.14	0.3547	-0.0197	0.1155	-0.0555	0.3257
14	18.21	0.4180	-0.0214	0.1345	-0.0524	0.3219
15	20.24	0.4810	-0.0235	0.1534	-0.0489	0.3184
16	22.27	0.5454	-0.0258	0.1732	-0.0472	0.3173
17	24.29	0.6106	-0.0282	0.1942	-0.0461	0.3179
18	26.33	0.6770	-0.0310	0.2143	-0.0457	0.3165
19	27.35	0.7084	-0.0322	0.2240	-0.0454	0.3160



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME BK10-B CONE TRANSITION

2 241 1.10 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CR	KCPF	YCPF
1	28.16	0.7367	-0.0330	0.2323	-0.0447	0.3153
2	29.25	0.7727	-0.0340	0.2428	-0.0441	0.3162
3	30.25	0.8035	-0.0349	0.2525	-0.0435	0.3161
4	31.27	0.8364	-0.0360	0.2628	-0.0431	0.3161
5	32.29	0.8703	-0.0372	0.2721	-0.0427	0.3126
6	33.29	0.9014	-0.0381	0.2833	-0.0423	0.3162
7	34.31	0.9333	-0.0391	0.2937	-0.0418	0.3166
8	36.33	0.9976	-0.0410	0.3153	-0.0411	0.3160
9	38.35	1.0586	-0.0418	0.3355	-0.0395	0.3170
10	40.38	1.0923	-0.0331	0.3424	-0.0303	0.3135
11	42.41	1.1677	-0.0214	0.3431	-0.0194	0.3098
12	44.42	1.1210	-0.0115	0.3439	-0.0103	0.3068
13	46.45	1.1253	-0.0020	0.3416	-0.0014	0.3036
14	48.46	1.1396	-0.0026	0.3479	-0.0023	0.3054
15	50.47	1.1641	-0.0041	0.3592	-0.0036	0.3086
16	52.49	1.1894	-0.0047	0.3683	-0.0040	0.3096
17	54.52	1.2216	-0.0167	0.3671	-0.0137	0.3169
18	56.52	1.2395	-0.0241	0.3944	-0.0194	0.3217
19	57.52	1.2645	-0.0271	0.4036	-0.0217	0.3232

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

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MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART PALM RX10-6 CONE TRANSITION

2 242 1.10 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CM	XCPC	YCPC
1	54.24	1.2336	-0.0259	0.3979	-0.0210	0.3226
2	59.36	1.2474	-0.0274	0.4029	-0.0224	0.3229
3	62.36	1.2556	-0.0296	0.4063	-0.0236	0.3238
4	61.37	1.2663	-0.0313	0.4123	-0.0247	0.3256
5	62.36	1.2767	-0.0330	0.4160	-0.0258	0.3259
6	63.36	1.2851	-0.0347	0.4144	-0.0270	0.3260
7	64.36	1.2926	-0.0361	0.4225	-0.0280	0.3270
8	64.39	1.2973	-0.0386	0.4276	-0.0298	0.3296
9	64.39	1.3031	-0.0422	0.4304	-0.0324	0.3303
10	70.40	1.3031	-0.0450	0.4323	-0.0345	0.3317
11	72.40	1.3037	-0.0475	0.4336	-0.0364	0.3326
12	74.40	1.3057	-0.0496	0.4368	-0.0382	0.3345
13	74.41	1.3044	-0.0473	0.4390	-0.0349	0.3351
14	74.40	1.3044	-0.0444	0.4412	-0.0416	0.3372
15	80.41	1.3118	-0.0570	0.4436	-0.0436	0.3382
16	82.42	1.3223	-0.0603	0.4443	-0.0456	0.3398
17	84.44	1.3284	-0.0633	0.4524	-0.0477	0.3405
18	84.44	1.3389	-0.0661	0.4467	-0.0509	0.3426
19	87.44	1.3411	-0.0703	0.4596	-0.0524	0.3427

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH 0.10-6 CONE TRANSITION

2 243 1.10 2.5 F36 FREE

POINT	ALPHA	CMF	CM	CH	XCPF	YCPF
4	84.23	1.3254	-0.0709	0.4535	-0.0535	0.3621
5	84.22	1.3224	-0.0730	0.4540	-0.0552	0.3632
6	90.25	1.3173	-0.0750	0.4532	-0.0570	0.3640
7	91.26	1.3137	-0.0773	0.4535	-0.0588	0.3652
8	92.26	1.3085	-0.0791	0.4534	-0.0604	0.3664
9	93.26	1.3074	-0.0814	0.4536	-0.0623	0.3678
10	94.26	1.3041	-0.0839	0.4544	-0.0642	0.3684
11	96.26	1.2981	-0.0879	0.4541	-0.0677	0.3698
12	98.26	1.2921	-0.0921	0.4547	-0.0712	0.3719
13	100.25	1.2831	-0.0964	0.4564	-0.0750	0.3733
14	102.27	1.2744	-0.1017	0.4590	-0.0785	0.3744
15	104.25	1.2637	-0.1061	0.4603	-0.0829	0.3758
16	106.26	1.2544	-0.1131	0.4614	-0.0873	0.3763
17	108.26	1.2491	-0.1185	0.4630	-0.0919	0.3792
18	110.26	1.2404	-0.1239	0.4612	-0.0968	0.3802
19	112.26	1.2344	-0.1306	0.4650	-0.1014	0.3808
20	114.27	1.2234	-0.1362	0.4653	-0.1061	0.3824
21	116.26	1.2744	-0.1416	0.4651	-0.1107	0.3834
22	117.26	1.2744	-0.1444	0.4659	-0.1128	0.3841

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART RACH R-10-6 CONF. TRANSITION

2 244 1.16 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CH	ACPF	YCPF
1	118.00	1.2738	-0.1469	0.4573	-0.1153	0.3670
2	119.05	1.2702	-0.1491	0.4666	-0.1174	0.3673
3	120.03	1.2726	-0.1410	0.4636	-0.1187	0.3663
4	121.10	1.2704	-0.1533	0.4631	-0.1207	0.3645
5	122.10	1.2652	-0.1544	0.4616	-0.1223	0.3648
6	123.09	1.2561	-0.1559	0.4599	-0.1241	0.3653
7	124.16	1.2487	-0.1573	0.4569	-0.1260	0.3659
8	126.16	1.2356	-0.1606	0.4527	-0.1300	0.3664
9	128.10	1.2186	-0.1636	0.4461	-0.1343	0.3677
10	130.09	1.1986	-0.1666	0.4431	-0.1392	0.3697
11	132.16	1.1727	-0.1726	0.4376	-0.1472	0.3732
12	134.08	1.1513	-0.1799	0.4328	-0.1562	0.3759
13	136.09	1.1330	-0.1861	0.4299	-0.1642	0.3795
14	138.08	1.1064	-0.1860	0.4214	-0.1680	0.3807
15	140.00	1.0754	-0.1856	0.4297	-0.1717	0.3810
16	142.09	1.0389	-0.1839	0.3969	-0.1766	0.3821
17	144.09	0.9982	-0.1830	0.3655	-0.1834	0.3862
18	146.11	0.9457	-0.1786	0.3658	-0.1889	0.3867
19	147.10	0.9155	-0.1756	0.3561	-0.1918	0.3889

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME: RALG-6 CONE TRANSITION

2 245 1.10 2.5 F36 FREE

POINT	ALPHA	CNF	CN	CM	XCDF	YCDF
1	147.89	0.8780	-0.1710	0.3406	-0.1988	0.3879
2	148.90	0.8437	-0.1674	0.3276	-0.1984	0.3885
3	149.96	0.8142	-0.1645	0.3175	-0.2021	0.3900
4	150.98	0.7806	-0.1606	0.3053	-0.2057	0.3912
5	151.99	0.7484	-0.1565	0.2930	-0.2092	0.3915
6	152.98	0.7142	-0.1522	0.2808	-0.2130	0.3932
7	153.96	0.6831	-0.1483	0.2689	-0.2171	0.3937
8	154.94	0.6518	-0.1449	0.2430	-0.2246	0.3929
9	157.13	0.5503	-0.1336	0.2279	-0.2302	0.3928
10	160.01	0.4443	-0.1177	0.1917	-0.2429	0.3958
11	162.02	0.4167	-0.1060	0.1680	-0.2530	0.4013
12	164.03	0.3574	-0.0943	0.1426	-0.2637	0.3990
13	166.05	0.2994	-0.0822	0.1163	-0.2762	0.3880
14	168.05	0.2443	-0.0702	0.0943	-0.2872	0.3861
15	170.07	0.1936	-0.0582	0.0734	-0.3004	0.3786
16	172.09	0.1466	-0.0464	0.0549	-0.3164	0.3747
17	174.11	0.1053	-0.0351	0.0388	-0.3335	0.3683
18	176.13	0.0697	-0.0242	0.0249	-0.3472	0.3562
19	177.13	0.0506	-0.0191	0.0191	-0.3691	0.3493

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME RX10-6 CONF. TRANSITION

2 246 1.16 2.5 F36 FREE

POINT	ALPHA	CNP	CM	CM	XCOPF	YCOPF
1	177.96	0.0447	-0.0165	0.0156	-0.3389	0.3211
2	179.04	0.0350	-0.0114	0.0045	-0.3758	0.2707
3	182.04	0.0241	-0.0069	0.0055	-0.2975	0.2283
4	181.06	0.0146	-0.0024	-0.0002	-0.1922	-0.0129
5	182.06	0.0601	0.0015	-0.0054	10.3333	-36.2666
6	183.07	-0.0091	0.0055	-0.0104	-0.6126	1.1512
7	184.08	-0.0195	0.0111	-0.0154	-0.5068	0.7762
8	186.09	-0.0436	0.0165	-0.0251	-0.4455	0.5734

ARNOLD ENGINEERING DEVELOPMENT CENTER(AECC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-4 CONF TRANSITION

2 247 1.24 2.5 F36 FREE

POINT	ALPHA	CNF	CN	CN	XCPF	YCPF
1	-2.03	-0.0315	0.0012	-0.0215	-0.0380	0.6817
2	-0.96	-0.0165	0.0004	-0.0141	-0.0236	0.8545
3	0.04	-0.0005	-0.0001	-0.0073	0.0266	1.4269
4	1.05	0.0061	-0.0007	-0.0024	-0.0413	-0.2956
5	2.06	0.0220	-0.0015	0.0029	-0.0691	0.1291
6	3.05	0.0347	-0.0021	0.0077	-0.0905	0.7217
7	4.04	0.0473	-0.0027	0.0154	-0.0564	0.3245
8	6.06	0.0841	-0.0044	0.0313	-0.0585	0.3717
9	8.11	0.1266	-0.0070	0.0477	-0.0557	0.3764
10	10.13	0.1744	-0.0094	0.0622	-0.0539	0.3557
11	12.14	0.2270	-0.0116	0.0779	-0.0522	0.3433
12	14.17	0.2844	-0.0147	0.0936	-0.0517	0.3285
13	16.19	0.3434	-0.0164	0.1098	-0.0490	0.3194
14	18.22	0.4054	-0.0187	0.1263	-0.0462	0.3114
15	20.25	0.4682	-0.0203	0.1461	-0.0433	0.3120
16	22.28	0.5340	-0.0231	0.1647	-0.0432	0.3085
17	24.32	0.5959	-0.0255	0.1883	-0.0428	0.3127
18	26.35	0.6595	-0.0280	0.2061	-0.0425	0.3125
19	27.35	0.6895	-0.0289	0.2165	-0.0419	0.3161

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AWT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONE TRANSITION

2 240 1.20 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CC	KCPF	YCPF
1	28.17	0.7147	-0.0246	0.2241	-0.0416	0.3136
2	29.25	0.7094	-0.0311	0.2334	-0.0415	0.3120
3	30.25	0.7031	-0.0323	0.2434	-0.0412	0.3108
4	31.24	0.6961	-0.0337	0.2533	-0.0408	0.3111
5	32.29	0.6859	-0.0343	0.2637	-0.0405	0.3117
6	33.30	0.6773	-0.0351	0.2746	-0.0400	0.3130
7	34.31	0.6715	-0.0358	0.2845	-0.0395	0.3135
8	36.34	0.6691	-0.0376	0.3062	-0.0388	0.3159
9	37.35	1.0235	-0.0368	0.3259	-0.0379	0.3184
10	40.38	1.0712	-0.0363	0.3435	-0.0357	0.3206
11	42.40	1.1074	-0.0356	0.3552	-0.0322	0.3213
12	44.42	1.1343	-0.0304	0.3633	-0.0271	0.3203
13	46.45	1.1514	-0.0243	0.3675	-0.0211	0.3192
14	48.47	1.1663	-0.0163	0.3714	-0.0165	0.3184
15	50.47	1.1784	-0.0156	0.3745	-0.0141	0.3177
16	52.50	1.2035	-0.0192	0.3836	-0.0160	0.3188
17	54.52	1.2284	-0.0275	0.3961	-0.0224	0.3242
18	56.51	1.2485	-0.0354	0.4084	-0.0288	0.3271
19	57.52	1.2615	-0.0490	0.4153	-0.0309	0.3292



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

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MAINTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME RA10-A CONF TRANSITION

2 249 1.20 2.5 F36 FREE

POINT	ALPHA	CM	CM	CM	YCPF	YCPF
1	59.29	1.2560	-0.0353	0.4136	-0.0280	0.3288
2	59.36	1.2654	-0.0374	0.4179	-0.0297	0.3302
3	60.36	1.2754	-0.0397	0.4220	-0.0312	0.3308
4	61.36	1.2873	-0.0422	0.4270	-0.0328	0.3317
5	62.37	1.3001	-0.0438	0.4316	-0.0337	0.3320
6	63.36	1.3104	-0.0458	0.4366	-0.0350	0.3331
7	64.39	1.3230	-0.0477	0.4403	-0.0361	0.3328
8	66.40	1.3485	-0.0517	0.4498	-0.0384	0.3336
9	69.90	1.3636	-0.0550	0.4579	-0.0408	0.3345
10	70.42	1.3661	-0.0544	0.4655	-0.0429	0.3359
11	72.42	1.3721	-0.0565	0.4689	-0.0442	0.3368
12	74.42	1.3781	-0.0582	0.4729	-0.0456	0.3383
13	76.43	1.3890	-0.0601	0.4776	-0.0482	0.3390
14	78.43	1.4221	-0.0645	0.4849	-0.0491	0.3410
15	80.44	1.4331	-0.0717	0.4902	-0.0501	0.3421
16	82.45	1.4477	-0.0726	0.4975	-0.0503	0.3436
17	84.47	1.4480	-0.0735	0.5000	-0.0508	0.3451
18	86.48	1.4460	-0.0755	0.5017	-0.0522	0.3468
19	87.48	1.4476	-0.0766	0.5024	-0.0529	0.3472

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(RAT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF. TRANSITION

2 250 1.20 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CB	XCPF	YCPF
1	88.22	1.4356	-0.0819	0.4442	-0.0567	0.3677
2	84.24	1.4347	-0.0431	0.4494	-0.0579	0.3681
3	80.24	1.4396	-0.0053	0.4502	-0.0593	0.3681
4	71.29	1.4403	-0.0473	0.5021	-0.0606	0.3686
5	62.29	1.4485	-0.0551	0.5025	-0.0619	0.3693
6	53.28	1.4340	-0.0406	0.5027	-0.0630	0.3694
7	44.29	1.4404	-0.0415	0.5049	-0.0637	0.3504
8	35.30	1.4404	-0.0440	0.5060	-0.0652	0.3513
9	26.29	1.4326	-0.0962	0.5134	-0.0672	0.3517
10	100.29	1.4154	-0.0988	0.5100	-0.0698	0.3531
11	102.24	1.4013	-0.1024	0.4965	-0.0730	0.3543
12	104.30	1.3809	-0.1047	0.4408	-0.0758	0.3554
13	106.30	1.3613	-0.1040	0.4855	-0.0801	0.3567
14	108.24	1.3444	-0.1161	0.4433	-0.0860	0.3582
15	110.29	1.3370	-0.1223	0.4421	-0.0915	0.3606
16	112.29	1.3236	-0.1289	0.4759	-0.0975	0.3628
17	114.30	1.3067	-0.1340	0.4770	-0.1025	0.3651
18	116.29	1.2915	-0.1412	0.4751	-0.1093	0.3679
19	117.28	1.2817	-0.1443	0.4731	-0.1124	0.3686

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH PK10-6 CONF TRANSITION

2 251 1.20 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CG	KCPF	VCPF
1	120.05	1.2414	-0.1525	0.4750	-0.1181	0.3678
2	121.10	1.2613	-0.1544	0.4728	-0.1205	0.3690
3	122.11	1.2736	-0.1560	0.4707	-0.1225	0.3696
4	123.10	1.2850	-0.1573	0.4675	-0.1243	0.3696
5	124.10	1.2978	-0.1587	0.4661	-0.1262	0.3705
6	126.11	1.2406	-0.1614	0.4602	-0.1301	0.3710
7	128.05	1.2180	-0.1662	0.4553	-0.1364	0.3738
8	130.06	1.1972	-0.1700	0.4497	-0.1420	0.3756
9	132.07	1.1865	-0.1747	0.4438	-0.1463	0.3762
10	134.10	1.1366	-0.1710	0.4271	-0.1507	0.3757
11	136.10	1.1071	-0.1724	0.4163	-0.1558	0.3768
12	138.10	1.0717	-0.1732	0.4049	-0.1616	0.3779
13	140.10	1.0360	-0.1750	0.3950	-0.1691	0.3818
14	142.10	1.0006	-0.1776	0.3879	-0.1761	0.3841
15	144.10	0.9596	-0.1731	0.3866	-0.1824	0.3842
16	146.12	0.9140	-0.1680	0.3874	-0.1859	0.3843
17	147.13	0.8736	-0.1659	0.3368	-0.1893	0.3847

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH. RATIO-6. CONE TRANSITION

2 252 1.20 2.5 F36 FREE

POINT	ALPHA	CNF	CM	CH	XCFF	YCFF
1	147.93	0.8521	-0.1625	0.3279	-0.1907	0.3868
2	148.93	0.8206	-0.1597	0.3163	-0.1940	0.3854
3	149.92	0.7889	-0.1554	0.3028	-0.1970	0.3838
4	150.97	0.7551	-0.1513	0.2899	-0.2004	0.3839
5	151.98	0.7261	-0.1474	0.2765	-0.2030	0.3835
6	152.99	0.6970	-0.1433	0.2679	-0.2056	0.3843
7	153.98	0.6645	-0.1390	0.2551	-0.2091	0.3839
8	154.00	0.5986	-0.1344	0.2244	-0.2167	0.3831
9	158.00	0.5340	-0.1201	0.2062	-0.2249	0.3862
10	160.01	0.4694	-0.1094	0.1831	-0.2342	0.3901
11	162.03	0.4070	-0.0995	0.1581	-0.2444	0.3885
12	164.04	0.3474	-0.0886	0.1348	-0.2550	0.3878
13	166.05	0.2897	-0.0775	0.1146	-0.2675	0.3782
14	168.07	0.2354	-0.0661	0.0982	-0.2804	0.3740
15	170.08	0.1857	-0.0548	0.0882	-0.2953	0.3702
16	172.10	0.1418	-0.0439	0.0844	-0.3094	0.3685
17	174.12	0.1018	-0.0328	0.0851	-0.3219	0.3651
18	176.15	0.0666	-0.0220	0.0220	-0.3332	0.3331
19	177.15	0.0520	-0.0171	0.0159	-0.3241	0.3053

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART: MACH 0.15-0.6 CONE TRANSITION

2 253 1.24 2.5 F36 FREE

POINT	ALPHA	CNF	CN	Cs	XCPR	YCPR
1	177.97	0.0471	-0.0150	0.0131	-0.3189	0.2776
2	179.05	0.0343	-0.0101	0.0034	-0.2436	0.2466
3	180.08	0.0223	-0.0055	0.0032	-0.2448	0.1453
4	181.06	0.0106	-0.0017	-0.0021	-0.1164	-0.2009
5	182.07	-0.0007	0.0030	-0.0076	-0.0267	10.1208
6	183.07	-0.0124	0.0075	-0.0124	-0.6069	1.0000
7	184.08	-0.0240	0.0122	-0.0162	-0.5073	0.7071
8	186.10	-0.0513	0.0223	-0.0264	-0.4342	0.5222

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME PA10-5 CONF TRANSITION

2 257 1.30 2.5 F36 FREE

POINT	ALPHA	CNF	CM	Cm	XCPF	YCPF
1	-2.03	-0.0332	0.0011	-0.0222	-0.0328	0.6695
2	-0.97	-0.0152	0.0004	-0.0146	-0.0204	0.6056
3	0.03	-0.0051	-0.0003	-0.0071	0.0629	1.4028
4	1.06	0.0070	-0.0004	-0.0027	-0.1264	-0.3835
5	2.06	0.0204	-0.0017	0.0045	-0.0812	0.2225
6	3.08	0.0335	-0.0023	0.0103	-0.0696	0.3091
7	4.08	0.0461	-0.0024	0.0157	-0.0621	0.3413
8	6.10	0.0431	-0.0053	0.0329	-0.0633	0.3958
9	8.11	0.1245	-0.0074	0.0439	-0.0507	0.3794
10	10.13	0.1755	-0.0160	0.0630	-0.0568	0.3591
11	12.14	0.2277	-0.0124	0.0501	-0.0561	0.3514
12	14.19	0.2855	-0.0156	0.0463	-0.0544	0.3367
13	16.21	0.3444	-0.0174	0.1119	-0.0517	0.3250
14	18.23	0.4050	-0.0148	0.1244	-0.0499	0.3172
15	20.26	0.4644	-0.0220	0.1471	-0.0469	0.3136
16	22.24	0.5313	-0.0245	0.1664	-0.0460	0.3133
17	24.32	0.5452	-0.0273	0.1653	-0.0458	0.3130
18	26.35	0.6577	-0.0294	0.2058	-0.0453	0.3129
19	27.37	0.6907	-0.0312	0.2161	-0.0452	0.3129

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART MACH RAIL-0 CONE TRANSITION  
 2. 25R 1.30 2.5 F36 FREE

POINT	ALPHA	CNF	C <sub>N</sub>	C <sub>T</sub>	XC <sub>NP</sub>	YC <sub>NP</sub>
1	13.04	0.2444	-0.0136	0.0545	-0.0555	0.3458
2	14.12	0.2755	-0.0150	0.0628	-0.0544	0.3366
3	15.12	0.3042	-0.0162	0.1114	-0.0532	0.3333
4	16.14	0.3351	-0.0174	0.1084	-0.0520	0.3236
5	17.16	0.3640	-0.0183	0.1163	-0.0514	0.3194
6	18.17	0.3950	-0.0194	0.1252	-0.0492	0.3169
7	19.14	0.4250	-0.0203	0.1437	-0.0477	0.3138
8	21.21	0.4874	-0.0224	0.1527	-0.0460	0.3130
9	23.23	0.5507	-0.0251	0.1721	-0.0455	0.3125
10	25.26	0.6126	-0.0276	0.1914	-0.0451	0.3129
11	26.39	0.6484	-0.0292	0.2125	-0.0450	0.3121
12	29.31	0.7412	-0.0330	0.2332	-0.0446	0.3147
13	31.35	0.8652	-0.0345	0.2530	-0.0440	0.3162
14	33.37	0.8890	-0.0375	0.2741	-0.0431	0.3155
15	35.40	0.9324	-0.0394	0.2940	-0.0423	0.3154
16	37.44	0.9901	-0.0405	0.3146	-0.0409	0.3177
17	39.46	1.0447	-0.0412	0.3327	-0.0394	0.3184
18	41.48	1.0664	-0.0411	0.3444	-0.0375	0.3187
19	42.50	1.1194	-0.0412	0.3581	-0.0367	0.3198

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PMT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART: MACH 0.10-0.5 CONF. TRANSITION

2 259 1.30 2.5 F36 FREE

POINT	ALPHA	C <sub>N</sub>	C <sub>M</sub>	C <sub>D</sub>	XCP	YCP
1	47.34	1.0001	-0.0006	0.3005	-0.0376	0.3190
2	42.42	1.1232	-0.0399	0.3577	-0.0355	0.3185
3	38.64	1.1570	-0.0371	0.3697	-0.0321	0.3195
4	36.47	1.1006	-0.0330	0.3748	-0.0280	0.3175
5	38.49	1.2089	-0.0310	0.3531	-0.0257	0.3176
6	50.50	1.2191	-0.0292	0.3067	-0.0240	0.3172
7	52.52	1.2352	-0.0334	0.3450	-0.0274	0.3198
8	54.53	1.2503	-0.0300	0.4041	-0.0310	0.3232
9	56.54	1.2700	-0.0246	0.4157	-0.0339	0.3251
10	57.57	1.2901	-0.0257	0.4224	-0.0353	0.3264



ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART: MACL RX10-6 CONF. TRANSITION

2 260 1.30 2.5 F36 FREE

POINT	ALPHA	CN	Cm	Cy	XC <sub>PF</sub>	YC <sub>PF</sub>
1	59.31	1.2424	-0.0411	0.4140	-0.0320	0.3242
2	59.34	1.2452	-0.0434	0.4221	-0.0339	0.3259
3	60.34	1.3024	-0.0461	0.4257	-0.0354	0.3276
4	61.41	1.3116	-0.0487	0.4308	-0.0371	0.3285
5	62.61	1.3225	-0.0512	0.4354	-0.0387	0.3292
6	63.40	1.3341	-0.0532	0.4400	-0.0399	0.3298
7	64.40	1.3451	-0.0552	0.4434	-0.0411	0.3300
8	66.42	1.3694	-0.0584	0.4557	-0.0426	0.3323
9	68.42	1.3712	-0.0515	0.4628	-0.0442	0.3326
10	70.43	1.4075	-0.0652	0.4642	-0.0463	0.3334
11	72.44	1.4144	-0.0686	0.4754	-0.0483	0.3350
12	74.44	1.4335	-0.0684	0.4806	-0.0491	0.3353
13	76.46	1.4494	-0.0680	0.4854	-0.0469	0.3351
14	78.47	1.4614	-0.0686	0.4901	-0.0469	0.3354
15	80.47	1.4824	-0.0713	0.4985	-0.0481	0.3362
16	82.49	1.5002	-0.0764	0.5065	-0.0512	0.3376
17	84.51	1.5082	-0.0768	0.5106	-0.0518	0.3398
18	86.52	1.5016	-0.0775	0.5091	-0.0516	0.3390
19	87.53	1.5086	-0.0804	0.5105	-0.0534	0.3389

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PMT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONE TRANSITION

2 261 1.30 2.5 F36 FREE

POINT	ALPHA	CNF	CM	C <sub>D</sub>	XCPF	YCPF
1	88.26	1.4434	-0.0870	0.5112	-0.0582	0.3622
2	89.26	1.5070	-0.0873	0.5122	-0.0581	0.3610
3	90.30	1.5082	-0.0868	0.5162	-0.0576	0.3609
4	91.32	1.5100	-0.0866	0.5150	-0.0573	0.3610
5	92.33	1.5087	-0.0875	0.5135	-0.0580	0.3608
6	93.32	1.5091	-0.0892	0.5162	-0.0591	0.3620
7	94.33	1.5085	-0.0914	0.5161	-0.0608	0.3622
8	96.33	1.5062	-0.0905	0.5165	-0.0641	0.3642
9	98.33	1.5033	-0.0946	0.5200	-0.0663	0.3659
10	100.33	1.4954	-0.1030	0.5185	-0.0689	0.3669
11	102.33	1.4746	-0.1055	0.5133	-0.0716	0.3681
12	104.32	1.4506	-0.1103	0.5075	-0.0760	0.3581
13	106.32	1.4330	-0.1173	0.5051	-0.0818	0.3524
14	108.33	1.4259	-0.1234	0.5055	-0.0866	0.3545
15	110.36	1.3766	-0.1174	0.4930	-0.0856	0.3581
16	111.44	1.3514	-0.1140	0.4864	-0.0873	0.3598
17	114.33	1.3334	-0.1278	0.4836	-0.0959	0.3626
18	116.33	1.3021	-0.1365	0.4836	-0.1017	0.3603
19	117.36	1.3033	-0.1391	0.4802	-0.1035	0.3619

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MANTIC MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH 8X10-6 CONE TRANSITION

2 262 1.30 2.5 F36 FREE

POINT	ALPHA	C <sub>N</sub>	C <sub>m</sub>	C <sub>y</sub>	XCPY	YCPY
1	118.09	1.3334	-0.1395	0.4672	-0.1066	0.3653
2	119.04	1.3233	-0.1406	0.4633	-0.1064	0.3656
3	120.07	1.3164	-0.1425	0.4703	-0.1091	0.3644
4	121.12	1.2947	-0.1460	0.4722	-0.1127	0.3647
5	122.13	1.2855	-0.1484	0.4701	-0.1154	0.3657
6	123.12	1.2776	-0.1510	0.4666	-0.1182	0.3651
7	124.12	1.2717	-0.1525	0.4659	-0.1201	0.3664
8	124.12	1.2548	-0.1549	0.4590	-0.1234	0.3658
9	129.11	1.2241	-0.1560	0.4489	-0.1274	0.3667
10	130.12	1.1931	-0.1577	0.4395	-0.1322	0.3684
11	132.12	1.1686	-0.1595	0.4282	-0.1375	0.3690
12	134.13	1.1361	-0.1607	0.4166	-0.1422	0.3686
13	136.13	1.0475	-0.1609	0.4057	-0.1466	0.3697
14	138.12	1.0066	-0.1624	0.3951	-0.1522	0.3703
15	140.11	1.0607	-0.1731	0.3966	-0.1632	0.3758
16	142.12	1.0147	-0.1697	0.3807	-0.1672	0.3751
17	144.13	0.9537	-0.1645	0.3609	-0.1725	0.3785
18	146.15	0.8989	-0.1594	0.3398	-0.1773	0.3780
19	147.15	0.8753	-0.1565	0.3298	-0.1788	0.3768

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH 0.810-0.8 CONE TRANSITION

2 203 1.30 2.5 F30 FREE

POINT	ALPHA	CNF	Cm	Cm	ACPF	YCPF
1	147.91	0.8463	-0.1541	0.3109	-0.1821	0.3767
2	148.97	0.8150	-0.1507	0.3060	-0.1850	0.3754
3	149.99	0.7853	-0.1475	0.2927	-0.1878	0.3753
4	150.99	0.7561	-0.1441	0.2920	-0.1906	0.3730
5	152.00	0.7225	-0.1401	0.2711	-0.1938	0.3750
6	153.00	0.6824	-0.1365	0.2599	-0.1971	0.3753
7	153.99	0.6555	-0.1324	0.2479	-0.2007	0.3756
8	156.01	0.5951	-0.1240	0.2244	-0.2084	0.3780
9	158.01	0.5306	-0.1152	0.2010	-0.2172	0.3788
10	160.02	0.4672	-0.1057	0.1767	-0.2263	0.3783
11	162.03	0.4050	-0.0958	0.1527	-0.2366	0.3769
12	164.05	0.3444	-0.0855	0.1293	-0.2479	0.3750
13	166.07	0.2883	-0.0751	0.1063	-0.2605	0.3688
14	168.07	0.2355	-0.0645	0.0844	-0.2740	0.3586
15	170.09	0.1854	-0.0535	0.0651	-0.2886	0.3512
16	172.12	0.1406	-0.0424	0.0479	-0.3015	0.3409
17	174.13	0.1030	-0.0320	0.0326	-0.3105	0.3169
18	176.16	0.0671	-0.0214	0.0198	-0.3183	0.2955
19	177.17	0.0324	-0.0164	0.0133	-0.3129	0.2539

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(6T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME RA10-6 CONE TRANSITION

2 264 1.30 2.5 F36 FREE

POINT	ALPHA	CNF	CX	CY	XCDF	YCDF
3	177.97	0.0467	-0.0156	0.0136	-0.3360	0.2908
4	179.04	0.0324	-0.0105	0.0088	-0.3191	0.2663
5	180.04	0.0204	-0.0058	0.0044	-0.2943	0.2170
6	181.06	0.0081	-0.0015	-0.0014	-0.1452	-0.1777
7	182.07	-0.0026	0.0025	-0.0070	-0.4615	2.6808
8	183.06	-0.0134	0.0069	-0.0114	-0.5000	0.4274
9	184.07	-0.0256	0.0114	-0.0152	-0.4419	0.5905
10	185.10	-0.0342	0.0214	-0.0270	-0.3905	0.4469
12	188.12	-0.0720	0.0335	-0.0422	-0.3641	0.4586

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

NAVY MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART WACH PX10-6 CNF TRANSITION

2 269 0.42 2.5 F11 FHEE

POINT	ALPHA	CNF	CM	CH	YCPF	YCPF
1	118.07	1.0693	-0.1189	0.5518	-0.1091	0.5065
2	119.13	1.0622	-0.1206	0.5461	-0.1114	0.5046
3	120.14	1.0785	-0.1218	0.5442	-0.1129	0.5045
4	121.16	1.0761	-0.1237	0.5343	-0.1150	0.5012
5	122.14	1.0748	-0.1221	0.5449	-0.1136	0.5070
6	123.15	1.0694	-0.1233	0.5375	-0.1153	0.5026
7	124.15	1.0683	-0.1243	0.5374	-0.1147	0.4975
8	126.16	1.0673	-0.1242	0.5292	-0.1211	0.4958
9	128.16	1.0684	-0.1334	0.5320	-0.1239	0.4922
10	130.16	1.0632	-0.1351	0.5340	-0.1247	0.4930
11	132.15	1.0735	-0.1356	0.5309	-0.1263	0.4946
12	134.16	1.0543	-0.1362	0.5166	-0.1311	0.4900
13	135.17	1.0293	-0.1356	0.5076	-0.1318	0.4931
14	138.16	1.0115	-0.1347	0.4459	-0.1352	0.4903
15	140.17	0.9937	-0.1360	0.4480	-0.1368	0.4911
16	142.18	0.9693	-0.1361	0.4753	-0.1404	0.4903
17	144.18	0.9564	-0.1463	0.4682	-0.1445	0.4894
18	146.14	0.9384	-0.1384	0.4582	-0.1480	0.4883
19	147.14	0.9191	-0.1362	0.4505	-0.1482	0.4901

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME AX10-6 CONF TRANSITION

2 270 0.42 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	Co	XCPF	YCPF
1	148.05	0.8492	-0.1377	0.4345	-0.1540	0.4859
2	149.11	0.8447	-0.1355	0.4325	-0.1532	0.4889
3	150.11	0.8762	-0.1363	0.4266	-0.1556	0.4868
4	151.12	0.8664	-0.1367	0.4185	-0.1572	0.4838
5	152.13	0.8477	-0.1375	0.4187	-0.1585	0.4825
6	153.13	0.8446	-0.1360	0.4101	-0.1600	0.4827
7	154.12	0.8444	-0.1360	0.4055	-0.1611	0.4803
8	156.14	0.8373	-0.1374	0.4036	-0.1641	0.4828
9	158.13	0.7867	-0.1325	0.3808	-0.1684	0.4841
10	160.14	0.7545	-0.1390	0.3696	-0.1833	0.4873
11	162.14	0.6835	-0.1403	0.3448	-0.2053	0.5045
12	164.14	0.5947	-0.1437	0.3016	-0.2416	0.5072
13	166.13	0.5633	-0.1753	0.2901	-0.3111	0.5150
14	168.13	0.4773	-0.1554	0.2466	-0.3256	0.5166
15	170.13	0.3736	-0.1322	0.1898	-0.3538	0.5088
16	172.15	0.2773	-0.1059	0.1404	-0.3915	0.5064
17	174.16	0.2026	-0.0816	0.0938	-0.4039	0.4831
18	176.18	0.1264	-0.0543	0.0574	-0.4297	0.4541
19	177.14	0.0455	-0.0219	0.0211	-0.4389	0.4528

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH 0.10-6 CONF TRANSITION

2 271 0.9x 2.5 F11 FREE

POINT	ALPHA	CNF	CM	Cz	XCPCF	YCPCF
1	175.06	0.0722	-0.0312	0.0282	-0.4326	0.3901
2	174.05	0.0452	-0.0147	0.0138	-0.4355	0.3050
3	180.05	0.0184	-0.0076	0.0047	-0.4149	0.2564
4	181.05	-0.0095	0.0044	-0.0061	-0.5120	0.8556
5	182.06	-0.0464	0.0165	-0.0180	-0.4491	0.4899
6	183.07	-0.0635	0.0274	-0.0323	-0.4312	0.5006
7	184.07	-0.0426	0.0204	-0.0445	-0.4369	0.4906



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART, MACH X-10-6 CONF TRANSITION

2 272 0.40 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	Ch	KCPF	YCPF
1	-2.00	-0.0565	-0.0230	-0.0330	0.4081	0.5851
2	-0.94	-0.0267	-0.0114	-0.0163	0.4443	0.6847
3	0.00	0.0019	-0.0049	-0.0023	-2.8665	-1.2630
4	1.09	0.0267	0.0036	0.0120	0.1749	0.4516
5	2.05	0.0561	0.0112	0.0249	0.2000	0.4667
6	3.11	0.0866	0.0200	0.0362	0.2255	0.4296
7	4.11	0.1226	0.0303	0.0563	0.2479	0.4677
8	6.13	0.2120	0.0416	0.1008	0.1964	0.4752
9	8.16	0.2956	0.0561	0.1663	0.1897	0.4945
10	10.16	0.3496	0.0633	0.1941	0.1584	0.4985
11	12.16	0.5075	0.0675	0.2536	0.1329	0.4993
12	13.36	0.5659	0.0712	0.2854	0.1258	0.5043
13	15.26	0.7165	0.0766	0.3662	0.1269	0.5083
14	18.26	0.8132	0.0767	0.4139	0.0968	0.5090
15	20.26	0.9075	0.0820	0.4666	0.0904	0.5161
16	22.30	1.0046	0.0770	0.5174	0.0763	0.5125
17	24.33	1.0962	0.0746	0.5623	0.0681	0.5130
18	26.33	1.0979	0.0432	0.5490	0.0394	0.5081
19	27.32	1.1665	0.0422	0.5560	0.0374	0.4934

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MALM RATIO-0 CONF TRANSITION

2 273 0.90 2.5 111 FREE

POINT	ALPHA	CNF	CN	Cd	XCPF	YCPF
1	28.17	1.1484	0.0329	0.5643	0.0338	0.4914
2	29.23	1.1672	0.0361	0.5687	0.0309	0.4872
3	30.24	1.1854	0.0354	0.5768	0.0299	0.4865
4	31.24	1.1956	0.0331	0.5808	0.0277	0.4857
5	32.25	1.1942	0.0313	0.5802	0.0262	0.4858
6	33.26	1.1913	0.0303	0.5797	0.0254	0.4866
7	34.25	1.1806	0.0295	0.5759	0.0250	0.4877
8	36.25	1.1711	0.0220	0.5672	0.0186	0.4843
9	38.24	1.1597	0.0169	0.5621	0.0146	0.4847
10	40.25	1.1531	0.0151	0.5557	0.0131	0.4819
11	42.27	1.1447	0.0124	0.5438	0.0107	0.4841
12	44.27	1.1720	0.0094	0.5678	0.0080	0.4845
13	46.28	1.1732	0.0081	0.5695	0.0069	0.4854
14	49.29	1.2021	0.0033	0.5833	0.0027	0.4852
15	50.29	1.2237	-0.0001	0.5933	-0.0001	0.4848
16	52.31	1.2424	-0.0030	0.6073	-0.0024	0.4888
17	54.31	1.2613	-0.0059	0.6164	-0.0046	0.4887
18	56.33	1.2513	-0.0113	0.6078	-0.0090	0.4857
19	57.35	1.2541	-0.0094	0.6159	-0.0075	0.4911

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

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PAWING MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PAIR MACH 0.10-6.00 TRANSITION

2 274 0.90 2.5 F11 FREE

POINT	ALPHA	CMP	CM	CB	RCPF	YCPF
1	58.10	1.1273	-0.0043	0.5502	-0.0030	0.4880
2	59.22	1.1314	-0.0056	0.5533	-0.0050	0.4889
3	60.21	1.1441	-0.0071	0.5559	-0.0063	0.4901
4	61.21	1.1365	-0.0102	0.5551	-0.0089	0.4884
5	62.22	1.1390	-0.0107	0.5505	-0.0094	0.4901
6	63.22	1.1024	-0.0124	0.5017	-0.0108	0.4915
7	64.23	1.1090	-0.0139	0.5045	-0.0121	0.4910
8	66.24	1.1031	-0.0147	0.5727	-0.0165	0.4924
9	68.24	1.1785	-0.0232	0.5037	-0.0197	0.4953
10	70.24	1.1910	-0.0261	0.5922	-0.0219	0.4972
11	72.26	1.2137	-0.0314	0.6472	-0.0258	0.5002
12	74.25	1.2302	-0.0350	0.6200	-0.0289	0.5008
13	76.26	1.2543	-0.0401	0.6321	-0.0320	0.5039
14	78.26	1.2709	-0.0400	0.6440	-0.0365	0.5036
15	80.29	1.2816	-0.0407	0.6530	-0.0380	0.5096
16	82.20	1.2043	-0.0523	0.6014	-0.0406	0.5130
17	84.30	1.2990	-0.0574	0.6064	-0.0443	0.5169
18	86.31	1.2945	-0.0622	0.6723	-0.0479	0.5178
19	87.33	1.3403	-0.0664	0.6746	-0.0495	0.5188

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH 0.10-6 CONF INANITION

2 275 V.90 2.5 F11 FREE

POINT	ALPHA	CNF	Cn	Cn	XCPC	YCPC
1	88.13	1.2244	-0.0616	0.6337	-0.0503	0.5175
2	89.13	1.2242	-0.0644	0.6336	-0.0525	0.5175
3	90.17	1.2227	-0.0680	0.6341	-0.0556	0.5186
4	91.16	1.2251	-0.0712	0.6365	-0.0581	0.5195
5	92.18	1.2271	-0.0770	0.6342	-0.0628	0.5168
6	93.17	1.2262	-0.0794	0.6332	-0.0648	0.5164
7	94.19	1.2287	-0.0831	0.6351	-0.0676	0.5168
8	96.19	1.2353	-0.0864	0.6365	-0.0716	0.5153
9	98.19	1.2412	-0.0950	0.6351	-0.0765	0.5117
10	100.20	1.2446	-0.0987	0.6369	-0.0790	0.5101
11	102.21	1.2529	-0.1035	0.6342	-0.0827	0.5042
12	104.22	1.2536	-0.1084	0.6332	-0.0864	0.5050
13	106.23	1.2501	-0.1134	0.6320	-0.0883	0.5055
14	108.23	1.2424	-0.1125	0.6275	-0.0905	0.5049
15	110.24	1.2429	-0.1171	0.6234	-0.0943	0.5018
16	112.25	1.2355	-0.1167	0.6214	-0.0960	0.5031
17	114.25	1.2242	-0.1234	0.6142	-0.1004	0.4997
18	116.27	1.2259	-0.1244	0.6144	-0.1017	0.5008
19	117.27	1.2207	-0.1276	0.6058	-0.1045	0.4963

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART WACH PK10-6 CONE TRANSITION

2 276 U.S.D 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CE	XCPF	YCPF
1	118.08	1.1412	-0.1221	0.5670	-0.1070	0.4968
2	119.13	1.1324	-0.1232	0.5610	-0.1088	0.4954
3	120.12	1.1316	-0.1255	0.5582	-0.1109	0.4933
4	121.14	1.1315	-0.1268	0.5554	-0.1120	0.4944
5	122.15	1.1324	-0.1281	0.5575	-0.1131	0.4925
6	123.14	1.1326	-0.1291	0.5554	-0.1140	0.4906
7	124.15	1.1407	-0.1311	0.5637	-0.1149	0.4942
8	126.15	1.1656	-0.1364	0.5714	-0.1175	0.4905
9	126.17	1.1784	-0.1354	0.5813	-0.1150	0.4935
10	130.18	1.1776	-0.1405	0.5741	-0.1193	0.4908
11	132.17	1.1615	-0.1422	0.5629	-0.1225	0.4844
12	134.18	1.1593	-0.1433	0.5655	-0.1236	0.4878
13	135.19	1.1596	-0.1474	0.5603	-0.1271	0.4832
14	138.20	1.1331	-0.1457	0.5529	-0.1265	0.4880
15	140.19	1.1555	-0.1514	0.5606	-0.1313	0.4852
16	142.20	1.1563	-0.1503	0.5640	-0.1300	0.4878
17	144.22	1.1554	-0.1546	0.5575	-0.1350	0.4878
18	146.22	1.1484	-0.1613	0.5618	-0.1404	0.4890
19	147.22	1.1554	-0.1634	0.5556	-0.1414	0.4895

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MAGM 8X10-6 CONF. TRANSITION

2 277 0.98 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CH	XCPF	YCPF
1	148.04	1.1947	-0.1574	0.5430	-0.1401	0.4680
2	149.11	1.2053	-0.1688	0.5583	-0.1400	0.4861
3	150.11	1.1981	-0.1649	0.5435	-0.1410	0.4870
4	151.12	1.1837	-0.1662	0.5769	-0.1421	0.4873
5	152.13	1.1623	-0.1657	0.5677	-0.1426	0.4884
6	153.12	1.1466	-0.1634	0.5541	-0.1441	0.4874
7	154.12	1.1163	-0.1651	0.5459	-0.1462	0.4899
8	154.12	1.0514	-0.1675	0.5209	-0.1593	0.4955
9	154.10	0.9625	-0.1705	0.4794	-0.1771	0.4981
10	160.11	0.9438	-0.1938	0.4412	-0.2053	0.5098
11	162.11	0.8610	-0.1451	0.4369	-0.2149	0.5075
12	164.12	0.7604	-0.1724	0.3833	-0.2268	0.5041
13	166.13	0.6750	-0.1557	0.3271	-0.2377	0.4994
14	164.12	0.5551	-0.1404	0.2702	-0.2529	0.4868
15	170.11	0.4467	-0.1211	0.2140	-0.2712	0.4798
16	172.13	0.3420	-0.1027	0.1544	-0.2990	0.4661
17	174.12	0.2425	-0.0834	0.1051	-0.3439	0.4333
18	176.14	0.1481	-0.0564	0.0622	-0.3846	0.4201
19	177.14	0.1144	-0.0452	0.0412	-0.3932	0.3583

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)      PROPULSION WIND TUNNEL FACILITY (PWT)      AERODYNAMIC WIND TUNNEL (AT)  
 PAGE 1 OF 1      MANTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART NAME: RX10-9 CONF. TRANSITION  
 2 27R 0.96 2.5 F11 FREE

POINT	ALPHA	C <sub>NP</sub>	C <sub>N</sub>	C <sub>L</sub>	XCPX	YCPX
1	177.96	0.0426	-0.0370	0.0268	-0.3990	0.2810
2	179.06	0.0568	-0.0220	0.0120	-0.3877	0.2111
3	180.02	0.0282	-0.0111	-0.0011	-0.3537	-0.0388
4	181.06	-0.0013	0.0010	-0.0158	-0.7708	12.0916
5	182.06	-0.0327	0.0121	-0.0268	-0.3675	0.8286
6	183.06	-0.0659	0.0257	-0.0406	-0.3735	0.6186
7	184.06	-0.0960	0.0385	-0.0573	-0.3804	0.5971

ARNOLD ENGINEERING DEVELOPMENT CENTER(IADC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARLIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RAL0-6 CONF TRANSITION

P 279 1.10 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CN	* XCPF	YCPF
1	-2.03	-0.0046	-0.0211	-0.0309	0.4365	0.6386
2	-0.96	-0.0160	-0.0167	-0.0155	0.8959	0.9687
3	0.04	0.0061	-0.0049	-0.0028	-0.5443	-0.3506
4	1.06	0.0403	0.0000	0.0001	0.0012	0.2002
5	2.06	0.0069	0.0076	0.0233	0.1101	0.3381
6	3.07	0.0454	0.0176	0.0387	0.1846	0.4052
7	4.06	0.1303	0.0250	0.0533	0.1419	0.4141
8	6.10	0.2071	0.0364	0.0402	0.1769	0.4355
9	8.13	0.2916	0.0439	0.1339	0.1506	0.4594
10	10.14	0.3836	0.0515	0.1439	0.1344	0.4794
11	11.27	0.4394	0.0539	0.2113	0.1225	0.4885
12	14.19	0.5035	0.0579	0.2457	0.0992	0.4897
13	16.21	0.6026	0.0545	0.3375	0.0872	0.4945
14	18.24	0.7780	0.0610	0.3896	0.0784	0.5008
15	20.25	0.8673	0.0666	0.4367	0.0698	0.5015
16	22.29	0.9542	0.0684	0.4840	0.0638	0.5072
17	24.30	1.0391	0.0582	0.5305	0.0560	0.5106
18	26.34	1.1157	0.0557	0.5690	0.0499	0.5099
19	27.34	1.1043	0.0374	0.5547	0.0339	0.5023



ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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PARTIAL MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME RA10-6 CONF. TRANSITION

2 250 1.10 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CM	XCPF	YCPF
1	28.16	1.1926	0.0333	0.5722	0.0291	0.5000
2	29.25	1.1852	0.0312	0.5445	0.0263	0.5016
3	30.25	1.2198	0.0309	0.6107	0.0254	0.5000
4	31.26	1.2502	0.0313	0.6291	0.0251	0.5031
5	32.26	1.2801	0.0327	0.6492	0.0255	0.4993
6	33.18	1.3037	0.0325	0.6482	0.0250	0.4972
7	34.26	1.3250	0.0275	0.6563	0.0208	0.4938
8	34.28	1.3719	0.0141	0.6724	0.0118	0.4901
9	35.29	1.4662	0.0161	0.6878	0.0072	0.4898
10	40.30	1.4303	0.3040	0.7008	0.0028	0.4908
11	41.42	1.4394	0.0627	0.7054	0.0019	0.4902
12	44.31	1.4567	-0.0045	0.7112	-0.0031	0.4882
13	46.32	1.4672	-0.0079	0.7163	-0.0054	0.4896
14	48.33	1.4761	-0.0130	0.7215	-0.0088	0.4888
15	50.34	1.4786	-0.0175	0.7216	-0.0119	0.4888
16	52.35	1.4796	-0.0191	0.7253	-0.0129	0.4902
17	54.37	1.4855	-0.0222	0.7281	-0.0149	0.4901
18	56.38	1.4745	-0.0266	0.7337	-0.0178	0.4909
19	57.36	1.5002	-0.0275	0.7408	-0.0184	0.4938

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH RATIO-4 CONF TRANSITION

2 281 1.10 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CH	XCPCF	YCPCF
1	50.18	1.4856	-0.0261	0.7189	-0.0178	0.4906
2	54.25	1.4720	-0.0245	0.7227	-0.0194	0.4910
3	60.25	1.4796	-0.0297	0.7264	-0.0201	0.4910
4	61.27	1.4851	-0.0314	0.7301	-0.0211	0.4914
5	62.26	1.4916	-0.0334	0.7348	-0.0224	0.4926
6	63.26	1.5032	-0.0359	0.7399	-0.0239	0.4922
7	64.26	1.5075	-0.0379	0.7442	-0.0251	0.4937
8	66.27	1.5146	-0.0344	0.7545	-0.0263	0.4964
9	64.26	1.5266	-0.0412	0.7616	-0.0270	0.4988
10	70.29	1.5329	-0.0462	0.7636	-0.0302	0.4981
11	72.28	1.5396	-0.0445	0.7695	-0.0317	0.4997
12	74.30	1.5485	-0.0524	0.7794	-0.0340	0.5027
13	75.31	1.5447	-0.0564	0.7728	-0.0369	0.5042
14	78.31	1.5374	-0.0601	0.7784	-0.0391	0.5066
15	80.32	1.5365	-0.0646	0.7804	-0.0420	0.5079
16	82.33	1.5249	-0.0683	0.7809	-0.0447	0.5108
17	84.34	1.5221	-0.0713	0.7795	-0.0468	0.5121
18	86.34	1.5045	-0.0753	0.7771	-0.0499	0.5152
19	87.35	1.5052	-0.0780	0.7769	-0.0518	0.5161

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(AT)      1  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART NAME: AX10-6 CONF TRANSITION  
 2      2M2 1.10 2.5      F11      FREE

POINT	ALPHA	CNF	CM	CH	ACPF	YCPF
1	89.15	1.4233	-0.0792	0.7645	-0.0530	0.5167
2	89.17	1.4408	-0.0826	0.7695	-0.0556	0.5162
3	90.21	1.4455	-0.0825	0.7667	-0.0576	0.5161
4	91.22	1.4437	-0.0847	0.7631	-0.0605	0.5144
5	92.23	1.4483	-0.0828	0.7674	-0.0623	0.5156
6	93.22	1.4414	-0.0867	0.7677	-0.0648	0.5146
7	94.22	1.4464	-0.0893	0.7694	-0.0663	0.5160
8	96.23	1.5052	-0.1052	0.7714	-0.0699	0.5125
9	98.23	1.5144	-0.1043	0.7742	-0.0722	0.5112
10	100.24	1.5205	-0.1161	0.7731	-0.0763	0.5085
11	102.25	1.5145	-0.1191	0.7681	-0.0746	0.5072
12	104.25	1.5272	-0.1244	0.7721	-0.0814	0.5055
13	106.26	1.5285	-0.1248	0.7707	-0.0840	0.5062
14	108.27	1.5254	-0.1310	0.7678	-0.0858	0.5032
15	110.26	1.5286	-0.1354	0.7670	-0.0886	0.5017
16	112.24	1.5134	-0.1359	0.7622	-0.0848	0.5035
17	114.24	1.5074	-0.1380	0.7540	-0.0916	0.5001
18	116.30	1.5014	-0.1401	0.7500	-0.0933	0.4994
19	117.32	1.4945	-0.1405	0.7469	-0.0940	0.4998

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH 0.10-0.25 CONF TRANSITION

2 203 1.10 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CD	XCDF	YCDF
1	118.08	1.5486	-0.1446	0.7680	-0.0952	0.4959
2	119.17	1.4590	-0.1447	0.7649	-0.0965	0.4969
3	120.16	1.4907	-0.1451	0.7397	-0.0974	0.4962
4	121.18	1.4813	-0.1473	0.7328	-0.0994	0.4947
5	122.19	1.4739	-0.1480	0.7285	-0.1004	0.4943
6	123.18	1.4649	-0.1484	0.7217	-0.1016	0.4927
7	124.16	1.4591	-0.1503	0.7141	-0.1030	0.4922
8	125.30	1.4512	-0.1501	0.7174	-0.1034	0.4944
9	128.19	1.4514	-0.1544	0.7140	-0.1044	0.4918
10	130.14	1.4545	-0.1575	0.7186	-0.1083	0.4941
11	132.20	1.4576	-0.1624	0.7174	-0.1114	0.4922
12	134.20	1.4605	-0.1651	0.7185	-0.1130	0.4919
13	136.21	1.4534	-0.1672	0.7146	-0.1150	0.4915
14	138.21	1.4455	-0.1693	0.7113	-0.1171	0.4921
15	140.23	1.4403	-0.1712	0.7066	-0.1197	0.4926
16	142.23	1.4402	-0.1729	0.6957	-0.1227	0.4937
17	144.24	1.3748	-0.1751	0.6789	-0.1272	0.4932
18	146.25	1.3251	-0.1757	0.6551	-0.1326	0.4944
19	147.25	1.2952	-0.1757	0.6411	-0.1355	0.4944

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)      PROPULSION WIND TUNNEL FACILITY(PWT)      AERODYNAMIC WIND TUNNEL(AT)  
 PAGE 1 OF 1      MARTIN MISSILE TAIL EFFECTS DATA  
 SHEET 1 OF 1      SPLITTER PLATE DATA

TEST PART WAGM RX10-6 CONF TRANSITION  
 2 284 1.10 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CM	XCFF	YCFF
1	148.05	1.2446	-0.1752	0.6400	-0.1353	0.4944
2	149.12	1.2422	-0.1725	0.6265	-0.1367	0.4964
3	150.11	1.2421	-0.1697	0.6081	-0.1381	0.4969
4	151.12	1.1495	-0.1646	0.5973	-0.1414	0.4980
5	152.13	1.1434	-0.1679	0.5810	-0.1443	0.4992
6	153.12	1.1442	-0.1659	0.5612	-0.1476	0.4992
7	154.12	1.0421	-0.1650	0.5462	-0.1525	0.4973
8	155.12	0.9474	-0.1642	0.4455	-0.1666	0.4968
9	156.12	0.8493	-0.1627	0.4429	-0.1666	0.5034
10	160.12	0.8447	-0.1732	0.4462	-0.1948	0.5020
11	162.13	0.8444	-0.1643	0.3444	-0.2042	0.4965
12	164.12	0.7113	-0.1529	0.3503	-0.2150	0.4925
13	166.13	0.6155	-0.1405	0.3003	-0.2244	0.4879

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-B CONF TRANSITION

2 285 1.10 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	Cm	YCPF	YCPF
1	168.12	0.5123	-0.1253	0.2467	-0.2466	0.4816
2	170.13	0.4130	-0.1044	0.1420	-0.2461	0.4650
3	172.13	0.3166	-0.0916	0.1442	-0.2586	0.4550
4	174.14	0.2313	-0.0733	0.0996	-0.3167	0.4297
5	176.16	0.1509	-0.0536	0.0556	-0.3550	0.3688
6	177.17	0.1162	-0.0424	0.0401	-0.3653	0.3453

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH 0.10-0.5 COMP. TRANSITION

2 206 1.10 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	Ca	XCPF	YCPF
1	177.94	0.0493	-0.0376	0.0314	-0.3788	0.3159
2	179.05	0.0676	-0.0248	0.0135	-0.3668	0.1990
3	180.06	0.0861	-0.0128	0.0009	-0.3538	0.0244
4	181.06	0.0080	-0.0038	-0.0148	-0.4340	-1.6795
5	182.07	-0.0224	0.0074	-0.0244	-0.3245	1.6661
6	183.06	-0.0525	0.0188	-0.0384	-0.3585	0.7321
7	184.07	-0.0816	0.0246	-0.0531	-0.3625	0.6511

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH RAIL-6 CO-F TRANSITION

2 267 1.24 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	Ch	ACPF	YCPF
1	-2.04	-0.0447	-0.0217	-0.0350	0.4467	0.7201
2	-3.96	-0.0151	-0.0145	-0.0182	0.9526	1.2117
3	0.06	0.0131	-0.0055	-0.0040	-0.4176	-0.3064
4	1.07	0.0463	0.0004	0.0084	0.0170	0.1423
5	2.08	0.0765	0.0076	0.0245	0.0995	0.3208
6	3.08	0.1074	0.0156	0.0400	0.1453	0.3723
7	4.09	0.1432	0.0209	0.0557	0.1960	0.3888
8	6.12	0.2140	0.0445	0.0737	0.1348	0.4279
9	8.13	0.3054	0.0433	0.1372	0.1122	0.4491
10	10.16	0.3434	0.0360	0.1427	0.0366	0.4639
11	12.18	0.4490	0.0403	0.2313	0.0925	0.4731
12	14.20	0.5616	0.0433	0.2740	0.0745	0.4781
13	16.22	0.6751	0.0456	0.3274	0.0667	0.4850
14	18.25	0.7714	0.0429	0.3743	0.0556	0.4853
15	20.27	0.8554	0.0454	0.4214	0.0536	0.4927
16	22.31	0.9346	0.0472	0.4662	0.0504	0.4977
17	24.32	1.0132	0.0489	0.5092	0.0477	0.5016
18	26.37	1.0406	0.0451	0.5470	0.0413	0.5015
19	27.37	1.1305	0.0424	0.5655	0.0375	0.5002



ARMY ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART -ACH PA10-6, CONF TRANSITION

2 28P 1.20 2.5 F11 FREE

POINT	ALPHA	CNF	CM	C <sub>D</sub>	KCPF	YCPF
1	28.17	1.1567	0.0410	0.5602	0.0354	0.5007
2	29.25	1.1445	0.0381	0.5463	0.0319	0.4988
3	30.25	1.2197	0.0386	0.6102	0.0316	0.5003
4	31.27	1.2367	0.0331	0.6203	0.0268	0.5016
5	32.27	1.2671	0.0289	0.6316	0.0228	0.4984
6	33.29	1.2454	0.0275	0.6444	0.0212	0.4975
7	34.29	1.3221	0.0225	0.6533	0.0170	0.4966
8	36.31	1.3616	0.0206	0.6720	0.0153	0.4934
9	38.32	1.3435	0.0142	0.6868	0.0102	0.4914
10	40.32	1.4375	0.0021	0.7002	0.0015	0.4871
11	42.32	1.4255	-0.0019	0.7127	-0.0013	0.4882
12	44.33	1.4744	-0.0068	0.7244	-0.0046	0.4915
13	46.35	1.4857	-0.0165	0.7246	-0.0071	0.4913
14	48.35	1.5031	-0.0144	0.7361	-0.0099	0.4897
15	50.38	1.5053	-0.0172	0.7388	-0.0114	0.4898
16	52.37	1.5164	-0.0211	0.7442	-0.0139	0.4906
17	54.38	1.5184	-0.0249	0.7453	-0.0164	0.4913
18	56.40	1.5273	-0.0284	0.7516	-0.0189	0.4921
19	57.42	1.5305	-0.0318	0.7532	-0.0208	0.4920

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PMT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME: 6X10-6 CONE TRANSITION

2 289 1.20 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	Cm	XCPF	YCPF
1	56.19	1.5294	-0.0320	0.7537	-0.0209	0.4927
2	59.77	1.5371	-0.0348	0.7574	-0.0227	0.4927
3	60.21	1.5415	-0.0333	0.7647	-0.0216	0.4961
4	61.27	1.5474	-0.0360	0.7686	-0.0233	0.4965
5	62.26	1.5553	-0.0395	0.7696	-0.0254	0.4948
6	63.26	1.5564	-0.0400	0.7727	-0.0257	0.4957
7	64.28	1.5644	-0.0407	0.7761	-0.0260	0.4972
8	64.29	1.5745	-0.0443	0.7833	-0.0281	0.4975
9	68.29	1.5764	-0.0464	0.7859	-0.0295	0.4979
10	70.30	1.5824	-0.0495	0.7923	-0.0312	0.5002
11	72.30	1.5812	-0.0525	0.7950	-0.0332	0.5028
12	74.31	1.5747	-0.0551	0.7946	-0.0349	0.5033
13	75.33	1.5833	-0.0597	0.7987	-0.0377	0.5045
14	74.33	1.5803	-0.0638	0.8102	-0.0404	0.5063
15	80.33	1.5767	-0.0674	0.8029	-0.0427	0.5092
16	82.34	1.5752	-0.0727	0.8039	-0.0461	0.5104
17	84.35	1.5524	-0.0736	0.7997	-0.0476	0.5153
18	86.38	1.5417	-0.0807	0.7991	-0.0523	0.5183
19	87.37	1.5317	-0.0820	0.7450	-0.0535	0.5190

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART NAME: RA10-6 CONF. TRANSITION

2 290 1.20 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CM	KCPF	YCPF
1	58.16	1.5306	-0.0526	0.7983	-0.0540	0.5189
2	59.16	1.5276	-0.0561	0.7920	-0.0563	0.5184
3	59.21	1.5245	-0.0596	0.7924	-0.0596	0.5197
4	91.22	1.5296	-0.0545	0.7917	-0.0518	0.5176
5	92.23	1.5305	-0.0582	0.7903	-0.0541	0.5162
6	93.23	1.5346	-0.1019	0.7924	-0.0662	0.5152
7	94.23	1.5445	-0.1445	0.7935	-0.0677	0.5138
8	96.25	1.5573	-0.1162	0.7940	-0.0708	0.5124
9	98.25	1.5564	-0.1137	0.7954	-0.0731	0.5112
10	100.25	1.5714	-0.1213	0.8005	-0.0771	0.5092
11	102.25	1.5676	-0.1236	0.7963	-0.0768	0.5079
12	104.26	1.5723	-0.1290	0.7939	-0.0820	0.5049
13	106.27	1.5804	-0.1320	0.8021	-0.0835	0.5074
14	108.29	1.5766	-0.1334	0.7966	-0.0846	0.5053
15	109.36	1.5776	-0.1355	0.7959	-0.0859	0.5047
16	112.29	1.5776	-0.1393	0.7929	-0.0883	0.5025
17	114.31	1.5804	-0.1430	0.7922	-0.0905	0.5012
18	116.32	1.5616	-0.1426	0.7836	-0.0913	0.5010
19	117.33	1.5611	-0.1450	0.7823	-0.0929	0.5011

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART MACH R410-6 CONF TRANSITION

2 291 1.26 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CM	ACPF	YCPF
1	118.10	1.5526	-0.1452	0.7747	-0.0935	0.4989
2	119.17	1.5474	-0.1474	0.7689	-0.0955	0.4969
3	120.16	1.5423	-0.1481	0.7655	-0.0961	0.4963
4	121.16	1.5377	-0.1492	0.7600	-0.0973	0.4958
5	122.18	1.5364	-0.1503	0.7548	-0.0985	0.4938
6	123.18	1.5252	-0.1522	0.7536	-0.0998	0.4941
7	124.14	1.5183	-0.1520	0.7508	-0.1001	0.4942
8	124.19	1.5103	-0.1544	0.7464	-0.1023	0.4942
9	124.19	1.5102	-0.1593	0.7471	-0.1055	0.4947
10	130.19	1.5017	-0.1597	0.7422	-0.1064	0.4942
11	132.20	1.4951	-0.1632	0.7367	-0.1092	0.4941
12	134.21	1.4813	-0.1654	0.7318	-0.1116	0.4940
13	136.22	1.4744	-0.1674	0.7242	-0.1134	0.4940
14	138.22	1.4634	-0.1700	0.7153	-0.1169	0.4920
15	140.23	1.4504	-0.1713	0.7001	-0.1206	0.4929
16	142.23	1.3884	-0.1774	0.6462	-0.1281	0.4941
17	144.24	1.3266	-0.1826	0.6753	-0.1346	0.4977
18	146.26	1.3207	-0.1862	0.6610	-0.1410	0.5005
19	147.26	1.2724	-0.1830	0.6440	-0.1416	0.5020

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RK10-6 CONF. TRANSITION

2 292 1.20 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	C <sub>x</sub>	XCPF	YCPF
1	148.66	1.2741	-0.1825	1.6346	-0.1432	0.4981
2	149.12	1.2443	-0.1804	0.6209	-0.1449	0.4989
3	150.11	1.2385	-0.1868	0.6202	-0.1508	0.5006
4	151.12	1.2143	-0.1847	0.6100	-0.1521	0.5023
5	152.12	1.1812	-0.1817	0.5920	-0.1538	0.5012
6	153.11	1.1434	-0.1746	0.5719	-0.1562	0.5002
7	154.12	1.1045	-0.1757	0.5528	-0.1591	0.5005
8	156.13	1.0239	-0.1700	0.5077	-0.1580	0.4959
9	158.13	0.9453	-0.1624	0.4671	-0.1718	0.4941
10	160.13	0.8593	-0.1571	0.4227	-0.1770	0.4919
11	162.13	0.7727	-0.1483	0.3745	-0.1922	0.4898
12	164.13	0.6845	-0.1305	0.3311	-0.1900	0.4823
13	166.13	0.5971	-0.1147	0.2820	-0.2004	0.4723
14	168.13	0.5032	-0.1049	0.2249	-0.2124	0.4569
15	170.14	0.4110	-0.0942	0.1823	-0.2292	0.4435
16	172.16	0.3131	-0.0786	0.1347	-0.2512	0.4302
17	174.17	0.2134	-0.0653	0.0914	-0.2799	0.3916
18	176.17	0.1525	-0.0462	0.0521	-0.3027	0.3415
19	177.17	0.1186	-0.0378	0.0345	-0.3206	0.2926

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AWT)

PAGE 1 OF 1

MANTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH RX10-A CONF TRANSITION

2 293 1.20 2.5 F11 FREE

POINT	ALPHA	CNF	CM	Co	ACPF	YCPF
1	177.94	0.1004	-0.0334	0.0295	-0.3350	0.2932
2	179.05	0.0895	-0.0243	0.0104	-0.3505	0.1493
3	180.06	0.0713	-0.0120	-0.0022	-0.3224	-0.0589
4	181.06	0.0020	-0.0007	-0.0169	-0.3462	-0.2293
5	182.06	-0.0072	0.0167	-0.0271	-0.3181	0.9963
6	183.06	-0.0046	0.0174	-0.0049	-0.2989	0.7530
7	184.07	-0.0030	0.0208	-0.0007	-0.3071	0.6474
8	186.07	-0.1703	0.0061	-0.0079	-0.2709	0.5752

ARNOLD ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST EARLY MACH RATIO-5 CONF TRANSITION

2 294 1.30 2.5 F11 FNEE

POINT	ALPHA	CNP	CM	CM	XCMP	YCMP
1	-2.04	-0.0030	-0.0179	-0.0332	0.0158	0.7725
2	-0.97	-0.0044	-0.0107	-0.0164	1.0961	1.7495
3	-0.01	0.0022	-0.0054	-0.0029	-0.2514	-0.1316
4	1.06	0.0366	0.0007	0.0102	0.0637	0.1805
5	2.07	0.0071	0.0061	0.0261	0.0595	0.2992
6	3.07	0.1211	0.0114	0.0408	0.0971	0.3366
7	4.04	0.1537	0.0181	0.0554	0.1175	0.3705
8	6.12	0.2264	0.0256	0.0458	0.1129	0.4231
9	8.13	0.3039	0.0298	0.1337	0.0982	0.4400
10	10.15	0.3900	0.0305	0.1758	0.0783	0.4508
11	12.16	0.4744	0.0315	0.2228	0.0557	0.4653
12	13.31	0.5304	0.0326	0.2464	0.0615	0.4681
13	16.23	0.6603	0.0344	0.3126	0.0521	0.4736
14	18.25	0.7485	0.0345	0.3572	0.0461	0.4773
15	20.28	0.8375	0.0350	0.4428	0.0417	0.4809
16	22.31	0.9164	0.0340	0.4419	0.0369	0.4809
17	24.33	0.9714	0.0362	0.4846	0.0365	0.4886
18	26.38	1.0062	0.0353	0.5228	0.0331	0.4904
19	27.38	1.0767	0.0365	0.5521	0.0333	0.4963

ARMED ENGINEERING DEVELOPMENT CENTER (AEDC)

PROPULSION WIND TUNNEL FACILITY (PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

NAVY MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME: RA10-6 CONF. TRANSITION

2 294 1.30 2.5 F11 FREE

POINT	ALPHA	CNF	CM	CM	XCDF	YCDF
1	28.17	1.1194	0.0413	0.5501	0.0260	0.4912
2	29.25	1.1546	0.0313	0.5692	0.0270	0.4922
3	30.20	1.1881	0.0409	0.5867	0.0260	0.4939
4	31.28	1.2193	0.0266	0.5995	0.0234	0.4917
5	32.24	1.2500	0.0279	0.6162	0.0223	0.4930
6	33.26	1.2774	0.0254	0.6322	0.0202	0.4949
7	34.24	1.3003	0.0224	0.6410	0.0176	0.4929
8	36.30	1.3551	0.0170	0.6545	0.0128	0.4902
9	38.32	1.3654	0.0141	0.6594	0.0103	0.4890
10	40.33	1.3955	0.0058	0.6511	0.0042	0.4861
11	42.34	1.4223	-0.0009	0.6444	-0.0006	0.4910
12	44.34	1.4500	-0.0069	0.7666	-0.0061	0.4887
13	46.37	1.4854	-0.0110	0.7177	-0.0075	0.4899
14	47.47	1.4800	-0.0136	0.7224	-0.0092	0.4884
15	50.38	1.5085	-0.0185	0.7361	-0.0124	0.4893
16	52.34	1.5124	-0.0217	0.7428	-0.0143	0.4910
17	54.44	1.5151	-0.0240	0.7491	-0.0158	0.4944
18	56.42	1.5239	-0.0281	0.7551	-0.0166	0.4955
19	57.43	1.5264	-0.0307	0.7580	-0.0201	0.4964



AERONAUTICAL ENGINEERING DEVELOPMENT CENTER (AEOC)

PROPULSION WIND TUNNEL FACILITY (PMT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST POINT NAME: 29X10-6 CONE TRANSITION

2 29X 1.30 2.5 F11 FREE

POINT	ALPHA	CNF	CM	Cn	XCPF	YCPF
1	58.20	1.5224	-0.0348	0.7588	-0.0228	0.4983
2	59.27	1.5246	-0.0351	0.7669	-0.0229	0.5001
3	60.24	1.5272	-0.0373	0.7679	-0.0246	0.4995
4	61.24	1.5244	-0.0345	0.7648	-0.0256	0.4983
5	62.30	1.5207	-0.0324	0.7730	-0.0247	0.4985
6	63.24	1.5204	-0.0409	0.7772	-0.0262	0.4974
7	64.24	1.5214	-0.0402	0.7741	-0.0257	0.4988
8	64.30	1.5241	-0.0435	0.7854	-0.0274	0.5008
9	68.31	1.5229	-0.0444	0.7862	-0.0287	0.5031
10	70.32	1.5262	-0.0443	0.7844	-0.0315	0.5042
11	71.42	1.5278	-0.0504	0.7847	-0.0322	0.5070
12	74.32	1.5292	-0.0546	0.7879	-0.0348	0.5085
13	76.33	1.5266	-0.0576	0.7870	-0.0368	0.5095
14	78.34	1.5202	-0.0617	0.7877	-0.0395	0.5113
15	80.35	1.5568	-0.0649	0.8016	-0.0417	0.5149
16	81.40	1.5597	-0.0671	0.8003	-0.0430	0.5160
17	84.38	1.5289	-0.0692	0.7924	-0.0453	0.5162
18	86.36	1.5326	-0.0783	0.7936	-0.0511	0.5170
19	87.36	1.5298	-0.0815	0.7934	-0.0535	0.5188

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME BX10-6 CONE TRANSITION

2 247 1.30 2.5 FII FREE

POINT	ALPHA	CNF	CM	CH	ACPF	YCPF
1	88.18	1.5295	-0.0860	0.7448	-0.0562	0.5194
2	89.17	1.5307	-0.0885	0.7431	-0.0578	0.5181
3	90.22	1.5344	-0.0897	0.7445	-0.0585	0.5178
4	91.23	1.5285	-0.0906	0.7434	-0.0592	0.5191
5	92.23	1.5251	-0.0940	0.7408	-0.0616	0.5185
6	93.23	1.5291	-0.0973	0.7408	-0.0636	0.5171
7	94.23	1.5412	-0.0995	0.7414	-0.0649	0.5169
8	96.24	1.5354	-0.1074	0.7401	-0.0701	0.5146
9	99.25	1.5505	-0.1119	0.7484	-0.0721	0.5153
10	100.25	1.5482	-0.1161	0.7461	-0.0758	0.5142
11	102.26	1.5551	-0.1225	0.7495	-0.0788	0.5141
12	104.26	1.5582	-0.1273	0.8005	-0.0817	0.5138
13	106.28	1.5621	-0.1294	0.8022	-0.0828	0.5135
14	108.29	1.5708	-0.1341	0.7997	-0.0854	0.5091
15	110.30	1.5755	-0.1356	0.8043	-0.0861	0.5105
16	112.30	1.5717	-0.1371	0.7978	-0.0873	0.5076
17	114.32	1.5580	-0.1370	0.7948	-0.0879	0.5076
18	116.33	1.5596	-0.1432	0.7867	-0.0918	0.5044
19	117.33	1.5544	-0.1445	0.7854	-0.0929	0.5054

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL (AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART NAME: PA10-A CONE TRANSITION

2 29R 1.30 2.5 F11 FREE

POINT	ALPHA	CNP	CM	CN	ACPF	YCPF
3	121.12	1.5431	-0.1479	0.7718	-0.0958	0.4902
4	121.14	1.5353	-0.1465	0.7689	-0.0967	0.4982
5	122.16	1.5231	-0.1515	0.7601	-0.0988	0.4958
6	123.14	1.5279	-0.1511	0.7593	-0.0989	0.4970
7	124.14	1.5281	-0.1521	0.7580	-0.0998	0.4973
8	126.14	1.5070	-0.1527	0.7516	-0.1013	0.4987
9	124.20	1.4964	-0.1572	0.7632	-0.1049	0.4958
10	130.20	1.4854	-0.1544	0.7358	-0.1077	0.4954
11	132.21	1.4765	-0.1614	0.7318	-0.1095	0.4963
12	134.21	1.4635	-0.1633	0.7245	-0.1116	0.4950
13	136.23	1.4591	-0.1674	0.7182	-0.1150	0.4922
14	138.22	1.4336	-0.1688	0.7065	-0.1177	0.4927
15	140.24	1.4019	-0.1714	0.6927	-0.1224	0.4941
16	142.25	1.3694	-0.1775	0.6763	-0.1296	0.4937
17	144.26	1.3304	-0.1794	0.6609	-0.1346	0.4968
18	146.26	1.2884	-0.1743	0.6411	-0.1392	0.4976
19	147.26	1.2681	-0.1794	0.6314	-0.1418	0.4979

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(AT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

## TEST PART WASH PA10-6 CONF TRANSITION

2 299 1.30 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	Cc	XCPCF	YCPCF
1	148.07	1.2527	-0.1744	0.6232	-0.1436	0.4975
2	149.12	1.2165	-0.1763	0.6056	-0.1447	0.4970
3	150.11	1.1992	-0.1761	0.5918	-0.1472	0.4947
4	151.12	1.1651	-0.1734	0.5743	-0.1488	0.4929
5	152.13	1.1254	-0.1688	0.5588	-0.1499	0.4952
6	153.12	1.0426	-0.1642	0.5387	-0.1521	0.4931
7	154.13	1.0574	-0.1636	0.5199	-0.1547	0.4915
8	156.13	0.9773	-0.1552	0.4917	-0.1588	0.4928
9	158.13	0.9048	-0.1457	0.4416	-0.1621	0.4881
10	160.14	0.8254	-0.1382	0.3955	-0.1674	0.4789
11	162.13	0.7409	-0.1287	0.3498	-0.1738	0.4721
12	164.14	0.6600	-0.1191	0.3060	-0.1804	0.4636
13	166.14	0.5851	-0.1063	0.2614	-0.1877	0.4517
14	168.14	0.4744	-0.0943	0.2165	-0.1986	0.4559
15	170.15	0.3901	-0.0853	0.1702	-0.2187	0.4362
16	172.15	0.3055	-0.0734	0.1274	-0.2410	0.4171
17	174.16	0.2302	-0.0594	0.0840	-0.2600	0.3988
18	176.17	0.1514	-0.0425	0.0532	-0.2804	0.3512
19	177.17	0.1167	-0.0332	0.0346	-0.2849	0.2967

ARNOLD ENGINEERING DEVELOPMENT CENTER(AEDC)

PROPULSION WIND TUNNEL FACILITY(PWT)

AERODYNAMIC WIND TUNNEL(4T)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

SPLITTER PLATE DATA

TEST PART MACH. RX10-6 CONF. TRANSITION

2 300 1.30 2.5 F11 FREE

POINT	ALPHA	CNF	Cm	Cn	KCPF	YCPF
1	177.95	0.0491	-0.0275	0.0294	-0.2776	0.2503
2	179.04	0.0644	-0.0151	0.0585	-0.2797	0.1316
3	180.05	0.0314	-0.0448	-0.0072	-0.2755	-0.2248
4	181.06	-0.0010	-0.0001	-0.0169	0.0606	19.0808
5	182.06	-0.0332	0.0093	-0.0350	-0.2795	1.0538
6	183.06	-0.0616	0.0157	-0.0497	-0.2546	0.8965
7	184.07	-0.0444	0.0224	-0.0636	-0.2535	0.6566
8	186.06	-0.1717	0.0421	-0.1001	-0.2451	0.5830

## **APPENDIX C**

### **TEST 3**

PAGE 1 OF 1  
SHEET 1 OF 1

LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MAHTIA MISSILE TAIL EFFECTS DATA

TEST	MAHTIA	VELM	DEL-0	PHI	CORP	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	14	2.30	3.0	0.0	1140F35	0.0	0	0	0	0	FIXED
POINT	ALPHA	WETA	CX	CLX	CY	CLY	CLL	CA	CAR	CAF	KCP
1	-3.58	0.01	-0.0003	1.4441	-0.0274	0.0170	-0.0603	0.3494	0.1234	0.2660	-2.4292
2	-2.02	0.01	-0.0005	1.1760	-0.0247	0.0145	-0.0652	0.3455	0.1207	0.2651	-2.5272
3	-0.99	0.01	-0.0005	0.9943	-0.0210	0.0123	-0.0634	0.3442	0.1143	0.2649	-2.6831
4	0.10	0.01	-0.0017	0.1264	-0.0015	-0.0136	-0.0626	0.3477	0.1205	0.2672	-0.0433
5	1.12	0.01	0.0103	-0.0342	-0.0100	0.0176	-0.0656	0.3456	0.1192	0.2664	-1.9079
6	2.15	0.01	0.0354	-0.0504	-0.0070	0.0040	-0.0614	0.3449	0.1193	0.2656	-2.1497
7	4.28	0.01	0.0347	-1.0792	-0.0123	0.0114	-0.0611	0.3430	0.1276	0.2654	-2.2527
8	4.35	0.01	1.0745	-2.0777	-0.0122	0.0355	-0.0637	0.4112	0.1432	0.2640	-2.1895
9	4.51	0.01	1.0710	-3.0745	-0.0250	0.0456	-0.0540	0.4235	0.1532	0.2703	-2.0822
10	10.61	0.01	2.0571	-4.4111	-0.0227	0.0145	-0.0577	0.4350	0.1602	0.2748	-1.9553
11	12.77	0.01	2.4554	-5.0750	-0.0245	-0.0162	-0.0545	0.4288	0.1517	0.2771	-1.8122
12	14.45	0.01	3.5456	-6.0375	-0.0226	-0.0379	-0.0542	0.4255	0.1490	0.2745	-1.7030
13	17.14	0.01	4.2151	-6.4031	-0.0132	-0.0423	-0.0523	0.4315	0.1490	0.2825	-1.6365
14	14.65	0.01	4.0474	-7.1424	-0.0151	-0.1214	-0.0471	0.4345	0.1461	0.2904	-1.5944
15	21.55	0.01	5.5476	-8.7077	-0.0217	-0.1337	-0.0520	0.4417	0.1420	0.2997	-1.5579
16	23.65	0.01	6.3457	-9.4474	-0.0444	-0.0134	-0.0607	0.4504	0.1361	0.3143	-1.5518
17	0.09	0.01	-0.0175	0.1255	-0.0151	0.0037	-0.0659	0.3867	0.1209	0.2658	-0.1032

PAGE 1 OF 1  
SHEET 1 OF 1

## LANGLEY RESEARCH CENTER (LRC)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MANTIN MISSILE TAIL EFFECTIVE DATA

TEST	UNIT	SCALE	RAJURE	PM	CONF	L	CEL1	CEL2	DEL3	DEL4	TRANSITION
3	20	2.30	3.00	45.0	-1.00	35	0.0	0	0	0	FIXED
POINT	ALPHA	DELTA	CX	CY	CLX	CLY	CLL	CA	CM	CAF	KCP
1	-3.50	0.00	-0.7421	1.3250	-0.0043	0.0514	-0.0000	0.3005	0.1222	0.2643	-2.4300
2	-2.51	0.01	-0.4542	1.1601	-0.0025	0.0574	-0.0000	0.3031	0.1166	0.2645	-2.5263
3	-1.57	0.01	-0.2010	0.0034	-0.0001	0.0000	-0.0000	0.3054	0.1150	0.2674	-2.6407
4	-0.60	0.01	-0.0227	0.1337	-0.0000	0.0000	-0.0000	0.3061	0.1195	0.2666	-6.4580
5	1.10	0.01	0.1075	-1.3051	-0.0030	0.0000	-0.0001	0.3032	0.1181	0.2651	-1.9624
6	2.14	0.01	0.3046	-1.0040	-0.0020	0.0034	-0.0024	0.3012	0.1130	0.2632	-2.1671
7	3.27	0.00	0.4250	-1.0612	-0.0035	0.0000	-0.0003	0.3006	0.1279	0.2609	-2.2633
8	4.30	-0.01	1.3070	-2.0003	-0.0037	0.0001	-0.0007	0.3063	0.1377	0.2546	-2.2125
9	5.47	-0.01	1.7007	-3.0751	-0.0041	0.0010	-0.0009	0.4000	0.1419	0.2557	-2.1304
10	17.44	-0.01	2.0244	-4.0010	-0.0057	0.1700	-0.0007	0.3998	0.1410	0.2540	-1.9629
11	17.75	-0.01	2.0202	-4.1957	-0.0011	0.1327	-0.0070	0.3969	0.1419	0.2580	-1.7953
12	14.94	-0.01	3.4141	-5.4520	-0.0011	0.1374	-0.0050	0.4004	0.1504	0.2590	-1.6930
13	17.13	-0.02	4.1025	-6.7293	-0.0007	0.1127	-0.0000	0.4047	0.1490	0.2567	-1.6166
14	19.00	-0.00	4.0000	-7.7700	-0.0000	0.1015	-0.0000	0.4075	0.1461	0.2614	-1.5770
15	21.74	-0.00	5.0000	-8.0000	-0.0000	0.1043	-0.0011	0.4117	0.1447	0.2670	-1.5703
16	23.74	-0.00	6.0000	-10.2704	-0.0174	0.1707	-0.0000	0.4194	0.1400	0.2734	-1.5086
17	0.00	0.01	-0.0200	0.1521	-0.0037	0.0036	-0.0000	0.3078	0.1207	0.2671	-5.1047



TEST DATA FOR TRANSITION											
POINT	ALPHA	BETA	CN	CLN	CV	CLV	CLL	CA	CAH	CAF	ACP
1	-3.57	0.01	-0.1001	1.5304	-0.0045	0.0013	-0.0523	0.3551	0.1023	0.2520	-2.1600
2	-2.00	0.00	-0.0014	1.5444	-0.0004	-0.0004	-0.0547	0.3515	0.0475	0.2540	-2.2559
3	-0.34	0.01	-0.0033	1.5014	-0.0100	0.0122	-0.0554	0.3541	0.0976	0.2565	-2.4559
4	0.11	0.00	-0.0017	1.5197	-0.0170	0.0218	-0.0541	0.3501	0.1006	0.2553	-4.2223
5	1.13	0.00	0.1450	-1.5214	-0.0145	0.0115	-0.0548	0.3533	0.0992	0.2541	-1.5348
6	2.12	0.00	0.1701	-1.5200	-0.0114	0.0113	-0.0545	0.3526	0.0976	0.2550	-1.8241
7	4.24	0.00	0.1722	-1.5370	-0.0147	0.0241	-0.0539	0.3544	0.1039	0.2545	-1.9336
8	4.32	0.00	1.1344	-2.2171	-0.0047	0.0037	-0.0492	0.3454	0.1103	0.2551	-1.9040
9	4.02	-0.01	1.0471	-2.4034	-0.0071	0.0047	-0.0402	0.3512	0.1136	0.2536	-1.8183
10	10.42	-0.01	2.0914	-3.0387	-0.0026	0.00310	-0.0470	0.3505	0.1135	0.2550	-1.6901
11	12.44	-0.01	2.0200	-4.1713	-0.0044	0.0029	-0.0446	0.3739	0.1136	0.2603	-1.5085
12	14.41	-0.01	3.1500	-4.0097	-0.0050	0.0046	-0.0422	0.3754	0.1152	0.2637	-1.5185
13	16.40	-0.01	3.1791	-5.6264	-0.0064	0.0057	-0.0506	0.3851	0.1160	0.2643	-1.4890
14	19.40	-0.01	4.0000	-6.0151	-0.0072	0.0045	-0.0532	0.3740	0.1135	0.2805	-1.4870
15	21.43	-0.00	5.0000	-7.0000	-0.0080	0.0051	-0.0554	0.4038	0.1136	0.2902	-1.5012
16	23.40	-0.00	5.0000	-8.0000	-0.0055	0.0044	-0.0542	0.4154	0.1104	0.3055	-1.5295
17	0.00	0.01	-0.0033	1.1713	-0.0172	0.0206	-0.0551	0.3571	0.1020	0.2547	-4.7190

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## LANGLEY RESEARCH CENTER (ASAT)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST FACTORIAL MATRIX											
POINT	ALPHA	BETA	CL	CLM	CV	CLN	CLL	CA	CAH	CAF	KCP
1	-3.73	0.01	-0.7204	1.5644	-0.0044	-0.0012	-0.0566	0.3567	0.1040	0.2567	-2.1440
2	-2.17	0.01	-0.6326	0.4432	-0.0011	-0.0045	-0.0542	0.3555	0.1008	0.2567	-2.2724
3	-1.15	0.01	-0.5404	0.3504	-0.0007	-0.0070	-0.0527	0.3564	0.0992	0.2573	-2.4343
4	-0.07	0.01	-0.4481	0.1004	-0.0006	-0.0055	-0.0552	0.3564	0.1007	0.2561	-4.2860
5	0.96	0.01	-0.1452	-0.2702	-0.0110	-0.0248	-0.0547	0.3561	0.1006	0.2553	-1.4200
6	1.98	0.01	0.3330	-0.4030	-0.0034	-0.0301	-0.0544	0.3564	0.0992	0.2572	-1.8085
7	4.10	0.01	1.7213	-1.3493	-0.0064	-0.0246	-0.0536	0.3601	0.1055	0.2566	-1.8932
8	6.14	0.01	1.1254	-2.1440	-0.0012	-0.0374	-0.0524	0.3745	0.1119	0.2626	-1.8565
9	8.30	0.01	1.0704	-2.0704	-0.0004	-0.0353	-0.0516	0.3874	0.1163	0.2641	-1.7706
10	10.34	0.01	2.0744	-3.0554	-0.0023	-0.0360	-0.0503	0.3874	0.1199	0.2675	-1.6836
11	12.54	0.01	2.4444	-4.0204	-0.0114	-0.0422	-0.0527	0.3864	0.1167	0.2682	-1.6003
12	14.60	0.01	3.1774	-4.0474	-0.0005	-0.0541	-0.0513	0.3902	0.1151	0.2751	-1.5381
13	16.67	0.02	3.7701	-5.0524	-0.0251	-0.0736	-0.0446	0.3944	0.1114	0.2825	-1.4970
14	18.66	0.02	4.3461	-6.0404	-0.0333	-0.0847	-0.0441	0.4026	0.1171	0.2855	-1.4792
15	21.11	0.02	4.4704	-7.0607	-0.0304	-0.1315	-0.0404	0.4138	0.1039	0.3049	-1.4726
16	23.30	0.02	5.7004	-7.5701	-0.0304	-0.1493	-0.0406	0.4265	0.0959	0.3306	-1.4855
17	-0.00	0.01	-0.0504	0.1042	-0.0105	-0.0266	-0.0512	0.3566	0.1073	0.2553	-3.5449

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LANGLEY RESEARCH CENTER (AS4)

UNITARY PLAN WIND TUNNEL (UPWT)

MAUTIN MISSILE TAIL EFFECTS DATA

TEST DATA - WIND TUNNEL - 6																	
3		23 3.05 3.0		45.0		0.0		0		0		0		J		FIXED	
POINT	ALPHA	MFTa	CA	CLa	CV	CLM	CLL	Ca	CaH	CAF	XCP						
1	-3.01	0.01	-0.4353	0.0303	-0.0154	0.0124	-0.0325	0.2202	0.0476	0.2176	-1.7441						
2	-1.44	0.0	-0.3132	0.0544	0.0024	-0.0127	-0.0321	0.2764	0.0676	0.2043	-1.8163						
3	-0.44	0.01	-0.1547	0.0154	-0.0114	0.0124	-0.0314	0.2763	0.0676	0.2047	-1.9304						
4	0.14	0.0	-0.0675	0.0005	-0.0124	0.0127	-0.0367	0.2750	0.0676	0.2074	-7.5333						
5	1.24	0.0	0.1613	-0.2223	-0.0200	0.0135	-0.0364	0.2758	0.0676	0.2042	-1.3869						
6	2.22	0.0	0.3134	-0.4734	-0.0134	0.0130	-0.0304	0.2774	0.0676	0.2103	-1.5116						
7	4.32	0.0	0.4442	-1.1150	-0.0295	0.0270	-0.0354	0.2442	0.0676	0.2166	-1.5634						
8	6.34	0.0	0.4442	-1.5015	-0.0174	0.0217	-0.0345	0.2496	0.0677	0.2219	-1.5235						
9	8.43	0.0	1.4514	-1.9851	-0.0154	0.0360	-0.0337	0.2465	0.0646	0.2267	-1.4542						
10	10.50	0.0	1.1723	-2.4816	-0.0275	0.0173	-0.0379	0.3044	0.0646	0.2351	-1.4002						
11	12.57	-0.01	2.2227	-3.0144	-0.0214	0.0374	-0.0420	0.3163	0.0646	0.2445	-1.3544						
12	14.67	0.0	2.7110	-3.4743	-0.0444	0.0320	-0.0441	0.3316	0.0676	0.2440	-1.3553						
13	15.77	-0.01	3.2751	-4.5005	-0.0437	0.0145	-0.0561	0.3504	0.0676	0.2528	-1.3738						
14	14.40	-0.01	3.0433	-5.0473	-0.0547	0.0244	-0.0561	0.3702	0.0634	0.3048	-1.4035						
15	20.44	-0.01	4.4444	-6.3471	-0.0333	-0.0120	-0.0528	0.3675	0.0612	0.3264	-1.4276						
16	23.17	-0.01	5.2140	-7.5744	-0.0447	0.0064	-0.0546	0.4100	0.0591	0.3509	-1.4537						
17	0.18	0.0	-0.0676	0.0044	-0.0114	0.0074	-0.0367	0.2735	0.0655	0.2000	-6.2077						

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LANGLEY RESEARCH CENTER (ASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART WALL WALL			PMT CONF		L		DEL1	DEL2	DEL3	DEL4	TRANSITION	
3			24 3.45 3.0		0.0 01-0F35 0.0		0	0	0	0	FIXED	
POINT	ALPHA	META	CLM	CLM	CV	CLM	CLL	CA	CAR	CAF	KCP	
1	-3.61	0.0	-0.5537	0.0660	0.0113	-0.0560	-0.0376	0.2172	0.0476	0.2096	-1.7446	
2	-2.10	0.0	-0.3242	0.0560	0.0134	-0.0443	-0.0351	0.2737	0.0477	0.2060	-1.4371	
3	-1.07	0.0	-0.1715	0.0375	0.0150	-0.0300	-0.0333	0.2724	0.0477	0.2041	-1.0674	
4	-0.02	0.0	-0.0146	0.0003	-0.0030	-0.0224	-0.0316	0.2732	0.0477	0.2055	-4.0990	
5	1.03	0.0	0.1420	-0.0223	-0.0009	-0.0250	-0.0311	0.2741	0.0477	0.2064	-1.3309	
6	2.01	0.01	0.2447	-0.0372	-0.0147	-0.0064	-0.0308	0.2763	0.0476	0.2047	-1.5249	
7	4.11	0.0	0.6244	-0.0466	-0.0153	-0.0033	-0.0352	0.2840	0.0476	0.2164	-1.5354	
8	6.15	0.0	0.4443	-1.0426	0.0043	-0.0243	-0.0346	0.2903	0.0477	0.2226	-1.4898	
9	8.20	0.0	1.4410	-1.0545	0.0012	-0.0308	-0.0346	0.2444	0.0478	0.2247	-1.4352	
10	10.30	0.0	1.7524	-2.0027	-0.0049	-0.0445	-0.0427	0.3075	0.0498	0.2377	-1.3712	
11	12.34	0.01	2.1444	-2.0221	-0.0117	-0.0443	-0.0415	0.3167	0.0498	0.2469	-1.3293	
12	14.44	0.01	2.6445	-3.0400	-0.0171	-0.0546	-0.0455	0.3310	0.0476	0.2634	-1.3092	
13	16.50	0.01	3.1500	-4.1444	-0.0149	-0.0659	-0.0547	0.3470	0.0655	0.2415	-1.3141	
14	18.71	0.01	3.7120	-4.0134	-0.0011	-0.1245	-0.0479	0.3441	0.0634	0.3007	-1.3236	
15	20.74	0.01	4.2445	-4.1665	-0.0014	-0.1144	-0.0465	0.3814	0.0541	0.3224	-1.3412	
16	22.49	0.01	4.9700	-0.7660	-0.0154	-0.0502	-0.0407	0.4004	0.0544	0.3461	-1.3655	
17	-0.01	0.0	0.0005	0.0543	-0.0031	-0.0344	-0.0367	0.2736	0.0634	0.2107	109.6080	
18	-0.01	0.0	0.0005	0.0543	-0.0031	-0.0344	-0.0367	0.2736	0.0655	0.2041	108.6080	

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN - 1ND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	WAL	CAU	W	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	25	4.03	3.0	0.0	0.0	0.0	0.0	0	0	0	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAN	CAP	KCP	
1	-3.24	0.0	-0.0575	0.0599	0.0042	-0.0222	-0.0345	0.2522	0.0448	0.2024	-1.4424	
2	-1.75	0.0	-0.0467	0.0371	0.0024	-0.0147	-0.0312	0.2467	0.0448	0.1964	-1.5703	
3	-0.73	0.0	-0.0477	0.0174	0.0020	-0.0146	-0.0290	0.2442	0.0448	0.1944	-1.6207	
4	0.34	0.0	0.0474	0.0424	0.0023	-0.0149	-0.0333	0.2444	0.0448	0.1990	-0.5922	
5	1.35	0.0	0.0462	0.0214	-0.0257	0.0148	-0.0330	0.2505	0.0425	0.1960	-1.1224	
6	2.35	0.0	0.0343	-0.0405	0.0003	-0.0159	-0.0326	0.2501	0.0425	0.1974	-1.1901	
7	4.44	0.0	0.0521	-0.0247	-0.0011	-0.0137	-0.0318	0.2553	0.0425	0.2028	-1.2706	
8	6.44	0.0	0.0644	-0.0214	-0.0022	-0.0115	-0.0376	0.2634	0.0525	0.2114	-1.2645	
9	8.53	0.0	0.0711	-0.0331	-0.0040	-0.0203	-0.0366	0.2737	0.0525	0.2212	-1.2345	
10	10.56	0.0	0.0755	-0.0634	-0.0150	-0.0248	-0.0423	0.2843	0.0525	0.2318	-1.2173	
11	12.61	0.0	0.0787	-0.0889	0.0042	-0.0273	-0.0479	0.2964	0.0525	0.2443	-1.2320	
12	14.70	0.0	0.0517	-0.1714	0.0047	-0.0434	-0.0535	0.3096	0.0525	0.2571	-1.2601	
13	16.76	0.0	0.0235	-0.3474	0.0113	-0.1133	-0.0523	0.3244	0.0448	0.2746	-1.3054	
14	18.82	0.01	0.0070	-0.4754	-0.0107	-0.1024	-0.0444	0.3424	0.0470	0.2954	-1.3550	
15	20.90	0.01	0.0124	-0.5732	-0.0016	-0.0440	-0.0565	0.3634	0.0443	0.3191	-1.3971	
16	23.07	0.01	0.0747	-0.7847	-0.0202	-0.0664	-0.0616	0.3853	0.0399	0.3444	-1.4303	
17	0.34	0.0	0.0465	-0.0133	0.0015	-0.0179	-0.0334	0.2510	0.0470	0.2040	-0.2745	

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LANGLEY RESEARCH CENTER (ASA)

UNITARY PLAN #120 TUNNEL (UP#1)

MAINTIA MISSILE TAIL EFFECTS DATA

TEST PART 4ACH NALU-6											
3 24 0.63 3.0 45.0 0100735 0.0 0 0 0 0 FIRED											
POINT	ALPHA	HFTA	CN	CLM	CV	CLN	CLL	CA	CAG	CAF	ACP
1	-2.97	0.0	-0.4534	0.4577	0.0055	-0.0040	-0.0345	0.2559	0.0498	0.2061	-1.4489
2	-1.47	0.0	-0.2347	0.3750	-0.0050	0.0057	-0.0340	0.2516	0.0498	0.2018	-1.6037
3	-0.46	0.0	-0.0655	0.1000	-0.0114	0.0140	-0.0337	0.2507	0.0498	0.2009	-1.8542
4	0.54	0.0	0.0664	-0.0210	-0.0190	0.0205	-0.0333	0.2509	0.0525	0.1984	-0.3789
5	1.61	0.0	0.2014	-0.2203	-0.0266	0.0407	-0.0330	0.2521	0.0525	0.1996	-1.0909
6	2.60	0.0	0.3244	-0.3037	-0.0152	0.0217	-0.0327	0.2522	0.0525	0.1997	-1.1665
7	4.46	0.0	0.6346	-0.6020	-0.0114	0.0144	-0.0366	0.2540	0.0525	0.2055	-1.2608
8	6.72	0.0	0.8807	-1.2676	-0.0106	0.0164	-0.0376	0.2667	0.0525	0.2122	-1.2925
9	8.78	0.0	1.3147	-1.8502	-0.0070	-0.0071	-0.0437	0.2710	0.0525	0.2185	-1.2669
10	10.43	0.0	1.7075	-2.1413	-0.0276	0.0149	-0.0427	0.2840	0.0525	0.2315	-1.2526
11	12.47	-0.01	2.1145	-2.6544	0.0076	-0.0440	-0.0484	0.2952	0.0525	0.2427	-1.2721
12	14.95	0.0	2.5847	-3.4513	-0.0336	0.0049	-0.0474	0.3112	0.0525	0.2587	-1.3281
13	17.01	-0.01	3.1776	-4.3523	-0.0226	-0.0054	-0.0530	0.3320	0.0498	0.2922	-1.3914
14	19.11	-0.01	3.7148	-5.336	-0.0249	-0.0055	-0.0546	0.3404	0.0470	0.3034	-1.4403
15	21.13	-0.01	4.2450	-6.3773	-0.0244	-0.0054	-0.0574	0.3744	0.0443	0.3301	-1.4796
16	23.24	-0.01	4.7237	-7.4231	-0.0312	-0.0449	-0.0562	0.3973	0.0416	0.3557	-1.5078
17	0.54	0.0	0.0547	-0.0144	0.0166	-0.0250	-0.0333	0.2508	0.0470	0.2038	-0.3543

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST FACT NAME VALUE											
3	27	2.30	3.0	MHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
				0.0	M140F35	0.0	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CX	CLM	CY	CLN	CLL	CA	CAR	CAF	KCP
1	-1.68	0.02	-2.0022	4.4067	-0.0365	-0.0210	-0.0306	1.1550	0.1481	1.0069	-3.6149
2	-2.13	0.01	-2.1141	4.4320	-0.0263	-0.0321	-0.0443	1.0943	0.1496	0.9447	-3.8166
3	-1.11	0.02	-2.1152	4.4461	-0.0321	-0.0330	-0.0474	1.0540	0.1525	0.9015	-3.9694
4	-0.01	0.02	-1.4476	7.4274	-0.0503	0.0010	-0.0438	1.0106	0.1553	0.8553	-4.1557
5	-0.83	0.02	-1.4574	7.4350	-0.0344	-0.0171	-0.0434	1.0117	0.1553	0.8564	-4.1598
6	1.04	0.01	-1.7044	7.4824	-0.0272	-0.0243	-0.0436	0.9701	0.1580	0.8121	-4.3849
7	2.03	0.01	-1.5159	7.0575	-0.0314	-0.0119	-0.0503	0.9379	0.1623	0.7766	-4.6558
8	4.15	0.02	-1.1047	6.1412	-0.0409	0.0106	-0.0446	0.4517	0.1680	0.6637	-5.5341
9	6.25	0.01	-0.8684	5.2030	-0.0371	0.0174	-0.0561	0.7649	0.1694	0.5995	-7.8036
10	8.37	0.02	-0.1735	4.2564	-0.0375	-0.0155	-0.0580	0.6851	0.1693	0.5158	-26.5326
11	10.49	0.02	0.4025	3.2767	-0.0564	0.0354	-0.0577	0.6057	0.1652	0.4405	8.1409
12	12.66	0.02	1.1075	2.1482	-0.0466	-0.0644	-0.0547	0.5303	0.1708	0.3595	1.9391
13	14.44	0.02	1.4114	1.0667	-0.0334	-0.0816	-0.0581	0.4542	0.1709	0.2833	0.5889
14	17.04	0.03	2.4473	0.1544	-0.0344	-0.1443	-0.0462	0.3946	0.1708	0.2278	0.0617
15	19.35	0.03	3.1245	-0.5477	-0.0375	-0.1316	-0.0411	0.3528	0.1666	0.1862	-0.1750
16	21.44	0.03	3.7171	-1.1150	-0.0242	-0.1570	-0.0465	0.3156	0.1610	0.1546	-0.3801
17	23.72	0.03	4.4076	-1.8874	-0.0364	-0.1501	-0.0448	0.2862	0.1636	0.1224	-0.6282
18	-0.03	0.01	-1.9054	7.4203	-0.0086	-0.0710	-0.0472	1.0100	0.1554	0.8546	-4.1567

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MANTIN MISSILE TAIL EFFECTS DATA

TEST POINT NAME			PAI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
3 2nd 2.66 3.0			0.0	d1-0F35	0.0	0	-20	0	-20	FIXED	
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAN	CAF	KCP
1	-3.74	0.01	-2.3010	6.3681	-0.0100	-0.0075	-0.0434	1.0304	0.1143	0.9161	-3.5034
2	-2.20	0.01	-2.0304	7.5663	-0.0032	-0.0053	-0.0430	0.9781	0.1143	0.8638	-3.7146
3	-1.73	0.01	-1.8242	7.1610	-0.0131	-0.0720	-0.0427	0.9384	0.1159	0.8225	-3.9150
4	-0.16	0.01	-1.6371	6.7684	-0.0232	-0.0543	-0.0463	0.8979	0.1175	0.7804	-4.1469
5	0.88	0.01	-1.4501	6.3410	-0.0160	-0.0466	-0.0460	0.8576	0.1176	0.7400	-4.4877
6	1.91	0.01	-1.2459	6.0130	-0.0077	-0.0422	-0.0458	0.8212	0.1191	0.7021	-4.7586
7	4.00	0.01	-0.9445	5.2075	-0.0246	-0.0331	-0.0530	0.7447	0.1239	0.6208	-6.0102
8	6.09	0.01	-0.4374	4.3535	-0.0294	-0.0299	-0.0562	0.6696	0.1284	0.5408	-9.9441
9	7.21	0.01	0.0004	3.4644	-0.0336	-0.0235	-0.0553	0.5909	0.1304	0.4605	74.6689
10	10.32	0.01	0.6155	2.4422	-0.0235	-0.0449	-0.0581	0.5194	0.1288	0.3906	4.0491
11	12.45	0.01	1.1454	1.5204	-0.0217	-0.0477	-0.0529	0.4605	0.1288	0.3317	1.3543
12	14.61	0.02	1.7270	1.0491	-0.0321	-0.0647	-0.0476	0.4302	0.1287	0.3015	0.6068
13	16.75	0.02	2.2401	0.5583	-0.0310	-0.0949	-0.0500	0.4068	0.1287	0.2781	0.2470
14	18.99	0.02	2.8030	0.0500	-0.0244	-0.1147	-0.0486	0.3816	0.1240	0.2576	0.0181
15	21.03	0.02	3.3147	-0.4319	-0.0323	-0.1515	-0.0512	0.3617	0.1223	0.2394	-0.1301
16	23.26	0.02	3.8147	-1.1157	-0.0214	-0.1906	-0.0536	0.3409	0.1224	0.2185	-0.2846
17	-0.16	0.01	-1.6374	6.7922	-0.0697	-0.0798	-0.0463	0.8994	0.1175	0.7819	-4.1481



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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MANIALLY MISSILE TAIL EFFECTS DATA

TEST	PART	WACH	HAIG-6	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	20	3.45	3.0	0.0	H1=0F35	0.0	0	-20	0	-20	FIXED
POINT	ALPHA	MFTA	CN	CLN	CV	CLN	CLL	CA	CAB	CAF	ACP
1	-3.56	0.0	-1.8376	5.2795	0.0061	-0.0507	-0.0319	0.8240	0.0567	0.7573	-3.6160
2	-2.13	0.0	-1.5745	5.0103	0.0113	-0.0544	-0.0316	0.7750	0.0667	0.7043	-3.6809
3	-1.11	0.0	-1.4010	5.0755	0.0163	-0.1214	-0.0363	0.7346	0.0667	0.6729	-3.9086
4	-0.66	0.0	-1.2246	5.1372	0.0216	-0.1041	-0.0361	0.7049	0.0666	0.6361	-4.1943
5	0.97	0.0	-1.0357	4.7446	0.0063	-0.0741	-0.0358	0.6644	0.0666	0.6006	-4.5452
6	1.96	0.0	-0.8443	4.4510	0.0117	-0.0803	-0.0354	0.6347	0.0668	0.5659	-5.0334
7	4.06	0.0	-0.5071	3.7104	0.0024	-0.0569	-0.0400	0.5603	0.0710	0.4863	-7.3178
8	6.12	0.01	-0.0914	2.4213	-0.0077	-0.0527	-0.0392	0.4913	0.0710	0.4203	-31.7874
9	5.18	0.0	0.3003	2.3343	-0.0045	-0.0554	-0.0343	0.4467	0.0731	0.3756	7.6733
10	10.25	0.0	0.4449	1.9108	0.0075	-0.0448	-0.0373	0.4282	0.0731	0.3551	2.7741
11	12.33	0.01	1.0446	1.6690	-0.0092	-0.0916	-0.0361	0.4141	0.0731	0.3450	1.5826
12	14.41	0.01	1.4376	1.4486	-0.0062	-0.1043	-0.0401	0.4169	0.0731	0.3438	1.8076
13	16.54	0.01	1.4346	1.2287	-0.0044	-0.1256	-0.0441	0.4162	0.0731	0.3431	0.6683
14	18.66	0.01	2.2810	0.9471	-0.0035	-0.1551	-0.0479	0.4181	0.0709	0.3472	0.4151
15	20.71	0.01	2.7401	0.6371	0.0164	-0.2250	-0.0414	0.4200	0.0689	0.3512	0.2325
16	22.84	0.01	3.2597	0.2402	-0.0141	-0.1207	-0.0556	0.4173	0.0667	0.3506	0.0737
17	-0.66	0.0	-1.2226	5.1285	0.0247	-0.1213	-0.0360	0.7021	0.0668	0.6333	-4.1941

LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST DATA SUMMARY											
3 30 4.00 3.0				0.0 01-0F35		0.0		0 -20		0 -20	
										FIXED	
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAH	CAF	XCP
1	-3.27	0.0	-1.0242	5.5279	0.0110	-0.0744	-0.0276	0.7465	0.0485	0.6980	-3.3638
2	-1.75	0.0	-1.1744	5.1417	-0.0118	-0.0450	-0.0264	0.4979	0.0485	0.6494	-3.7073
3	-0.74	0.0	-1.2234	4.7171	0.0207	-0.0900	-0.0266	0.6657	0.0485	0.6172	-3.9376
4	0.31	0.0	-1.0203	4.4504	-0.0027	-0.0553	-0.0329	0.6299	0.0485	0.5814	-4.3623
5	1.33	0.0	-0.4531	4.1421	0.0025	-0.0654	-0.0326	0.5966	0.0485	0.5441	-4.8554
6	2.33	0.0	-0.7190	3.8844	0.0057	-0.0652	-0.0323	0.5617	0.0512	0.5105	-5.4435
7	4.40	0.0	-0.3293	3.1496	0.0153	-0.0763	-0.0315	0.4882	0.0512	0.4370	-9.6525
8	4.44	0.0	0.0304	2.5521	0.0215	-0.0832	-0.0375	0.4365	0.0512	0.3453	83.9528
9	4.51	0.0	0.3504	2.1860	-0.0107	-0.0820	-0.0366	0.4139	0.0512	0.3627	6.0925
10	10.54	0.0	0.6547	1.9468	0.0038	-0.0786	-0.0356	0.4074	0.0512	0.3562	2.8486
11	12.56	0.0	1.0112	1.7491	0.0150	-0.1278	-0.0345	0.4030	0.0512	0.3518	1.7297
12	14.66	0.01	1.4353	1.5917	-0.0014	-0.1245	-0.0401	0.4058	0.0539	0.3519	1.1928
13	14.75	0.01	1.7456	1.3544	0.0091	-0.1554	-0.0384	0.4100	0.0512	0.3588	0.7943
14	14.44	0.01	2.1417	1.4717	-0.0067	-0.1530	-0.0377	0.4173	0.0512	0.3661	0.5090
15	25.44	0.01	2.4410	0.7437	0.0060	-0.1516	-0.0432	0.4244	0.0512	0.3732	0.3186
16	22.49	0.01	2.9576	0.4355	-0.0040	-0.1514	-0.0486	0.4266	0.0457	0.3809	0.1472
17	0.24	0.0	-1.0466	4.4824	-0.0626	-0.6555	-0.0330	0.6303	0.0485	0.5618	-4.2911

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH #410-6											
3 31 2.36 2.5 45.0 01.0F35 0.0 20 -20 20 -20 FIXED											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAN	CAF	ACP
1	-3.56	0.00	-3.4408	13.1011	-0.0294	-0.0253	-0.0255	1.4509	0.1788	1.6720	-3.7976
2	-2.47	0.05	-3.1434	12.3779	-0.0232	-0.0240	-0.0252	1.7735	0.1768	1.5947	-3.9420
3	-1.05	0.05	-2.9217	11.9025	-0.0355	-0.0161	-0.0249	1.7215	0.1807	1.5803	-4.0735
4	0.02	0.05	-2.7243	11.4716	-0.0474	0.0112	-0.0234	1.6670	0.1808	1.4862	-4.2047
5	1.07	0.05	-2.5245	11.0287	-0.0459	0.0247	-0.0245	1.6143	0.1827	1.4316	-4.3618
6	2.15	0.05	-2.3323	10.6137	-0.0423	0.0267	-0.0249	1.5612	0.1826	1.3786	-4.5547
7	4.14	0.04	-1.9445	9.7613	-0.0454	0.0227	-0.0331	1.4501	0.1804	1.2695	-5.0195
8	6.20	0.04	-1.4434	8.5744	-0.0548	0.0455	-0.0373	1.3146	0.1825	1.1341	-5.9434
9	8.32	0.04	-0.9422	7.3541	-0.0631	0.0524	-0.0450	1.1844	0.1824	1.0042	-7.9644
10	10.36	0.04	-0.3641	6.4516	-0.0647	0.0627	-0.0450	1.0796	0.1843	0.8953	-17.5252
11	12.44	0.03	0.2924	5.7776	-0.0662	0.0501	-0.0437	1.0011	0.1862	0.8149	24.8516
12	14.64	0.03	0.7974	5.4264	-0.0433	0.0441	-0.0324	0.9385	0.1882	0.7503	6.2991
13	16.77	0.03	1.3324	4.3333	-0.0724	0.0147	-0.0361	0.8859	0.1863	0.6996	3.1469
14	18.98	0.03	2.0241	3.7143	-0.0774	0.0023	-0.0344	0.8384	0.1864	0.6520	1.8350
15	21.03	0.03	2.6493	3.0050	-0.0844	0.0250	-0.0329	0.7927	0.1845	0.6052	1.1345
16	23.28	0.03	3.3235	2.7132	-0.0905	0.0073	-0.0453	0.7417	0.1826	0.5541	0.6659
17	0.02	0.05	-2.7332	11.4405	-0.0465	0.0249	-0.0294	1.6665	0.1807	1.4858	-4.2004

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LANGLEY RESEARCH CENTER (NASA)

UTILITY PLAN WIND TUNNEL (UPWT)

MANTIN MISSILE TAIL EFFECTS DATA

TEST PART PALM MA10-6		PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION		
3 3P 2.00 3.0		05.0	0140F35	0.0	20	-20	20	-20	FIXED		
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAR	CAF	ICP
1	-3.63	0.00	-2.9451	11.0360	-0.0197	-0.0349	-0.0249	1.6178	0.1247	1.4931	-3.6078
2	-2.11	0.05	-2.0642	10.4344	-0.0156	-0.0436	-0.0245	1.5644	0.1247	1.4701	-3.0676
3	-1.05	0.05	-2.4450	10.5515	-0.0271	-0.0334	-0.0332	1.4442	0.1246	1.3496	-4.0215
4	0.02	0.05	-2.3001	9.0532	-0.0264	-0.0219	-0.0330	1.4433	0.1262	1.3171	-4.1002
5	1.07	0.05	-2.1140	9.2572	-0.0305	-0.0095	-0.0367	1.3427	0.1262	1.2665	-4.3707
6	2.01	0.05	-1.9231	8.0733	-0.0350	-0.0113	-0.0344	1.3424	0.1263	1.2161	-4.6141
7	4.17	0.05	-1.5401	5.1327	-0.0414	-0.0019	-0.0319	1.2318	0.1276	1.1040	-5.2602
8	4.24	0.04	-1.0450	7.0543	-0.0402	-0.0040	-0.0352	1.1080	0.1274	0.9431	-6.6369
9	4.35	0.04	-0.5423	6.1613	-0.0417	0.0027	-0.0345	1.0043	0.1310	0.6773	-10.4024
10	10.45	0.04	-0.0726	5.3710	-0.0553	0.0045	-0.0335	0.9357	0.1310	0.0047	-73.9896
11	12.58	0.04	0.4421	4.7477	-0.0502	0.0193	-0.0203	0.4045	0.1310	0.7535	10.8294
12	14.73	0.04	0.4505	4.2747	-0.0719	0.0141	-0.0309	0.4445	0.1327	0.7118	4.5026
13	16.44	0.03	1.4744	3.7504	-0.0666	0.0049	-0.0245	0.4125	0.1326	0.6799	2.5343
14	19.04	0.03	1.4472	3.2624	-0.0467	-0.0344	-0.0400	0.5046	0.1311	0.7735	1.6337
15	21.15	0.03	2.5134	2.7034	-0.0546	-0.0275	-0.0357	0.7632	0.1294	0.6338	1.0493
16	23.37	0.03	3.1266	2.1264	-0.0714	-0.0340	-0.0451	0.7389	0.1278	0.6111	0.6783
17	0.02	0.05	-2.7992	4.6362	-0.0294	-0.0145	-0.0324	1.4440	0.1263	1.3177	-4.1911

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST NAME: CALM HX1026											
3 33 3.95 3.0 45.0 H140F35 0.0 20 -20 20 -20 FIXED											
POINT	ALPHA	PFTA	CA	CLM	CV	CLM	CLL	CA	CAB	CAF	XCP
1	-3.45	0.03	-2.3642	8.5294	-0.0126	-0.0359	-0.0359	1.2924	0.0633	1.2295	-3.6077
2	-1.40	0.03	-2.0941	7.9984	-0.0309	-0.0120	-0.0355	1.2240	0.0633	1.1657	-3.8371
3	-0.91	0.03	-1.5175	7.5556	-0.0427	0.0107	-0.0300	1.1445	0.0633	1.1215	-3.9923
4	0.16	0.03	-1.7048	7.2521	-0.0417	0.0087	-0.0349	1.1360	0.0633	1.0727	-4.2415
5	1.14	0.03	-1.5442	6.9498	-0.0443	0.0272	-0.0347	1.0855	0.0654	1.0211	-4.4538
6	2.16	0.03	-1.3751	6.5216	-0.0431	0.0197	-0.0292	1.0352	0.0654	0.9698	-4.7427
7	4.28	0.02	-0.9445	5.7694	-0.0312	-0.0078	-0.0234	0.9361	0.0654	0.8707	-5.8018
8	6.32	0.04	-0.5826	5.0218	-0.0507	0.0278	-0.0279	0.8557	0.0675	0.7882	-6.6167
9	8.34	0.02	-0.1745	4.3608	-0.0408	0.0104	-0.0271	0.7990	0.0675	0.7315	-24.9902
10	10.45	0.02	0.1425	4.0117	-0.0439	-0.0003	-0.0209	0.7672	0.0647	0.6975	21.9457
11	12.52	0.02	3.4459	3.7375	-0.0476	-0.0285	-0.0198	0.7555	0.0597	0.6458	6.8468
12	14.62	0.02	0.9144	3.5341	-0.0514	-0.0228	-0.0239	0.7545	0.0697	0.6848	3.0632
13	16.71	0.02	1.2472	3.3745	-0.0547	-0.0215	-0.0279	0.7659	0.0675	0.6984	2.6255
14	18.87	0.04	1.7041	3.2207	-0.0501	-0.0406	-0.0318	0.7848	0.0675	0.7173	1.8899
15	20.98	0.02	2.1141	3.0354	-0.0417	-0.0446	-0.0304	0.8059	0.0654	0.7405	1.4333
16	23.06	0.04	2.5033	2.7682	-0.0509	-0.1232	-0.0342	0.8145	0.0633	0.7562	1.0633
17	0.16	0.03	-1.7139	7.2434	-0.0410	-0.0011	-0.0349	1.1312	0.0654	1.0658	-4.2362
18	0.15	0.03	-1.7263	7.2632	-0.0276	0.0002	-0.0349	1.1328	0.0654	1.0674	-4.2074

## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MANTIN MISSILE TAIL EFFECTS DATA

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TEST DATA SUMMARY											
TEST	PART	NAME	DATE	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	34	4.43	3.0	45.0	11.0	F35	0.0	20	-20	20	-20
											FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	ACP
1	-3.00	0.03	-2.1066	7.5764	-0.0311	0.0416	-0.0329	1.1769	0.0442	1.1327	-3.5070
2	-1.53	0.02	-1.8604	7.5774	-0.0331	0.0130	-0.0325	1.1140	0.0442	1.0748	-3.8455
3	-0.64	0.02	-1.8624	6.7541	-0.0274	-0.0107	-0.0321	1.0735	0.0442	1.0243	-4.0837
4	0.50	0.02	-1.8622	6.3445	-0.0404	0.0012	-0.0318	1.0225	0.0442	0.9783	-4.3398
5	1.58	0.02	-1.7414	5.9413	-0.0467	0.0203	-0.0316	0.9744	0.0442	0.9302	-4.6376
6	2.54	0.02	-1.1010	5.0243	-0.0348	0.0152	-0.0313	0.9272	0.0442	0.8830	-5.1129
7	4.45	0.02	-0.7327	4.4444	-0.0374	0.0002	-0.0240	0.8400	0.0442	0.7958	-6.7536
8	6.49	0.02	-0.3744	4.3536	-0.0544	0.0244	-0.0233	0.7735	0.0442	0.7293	-11.5052
9	7.75	0.02	-0.0471	3.9313	-0.0542	0.0274	-0.0225	0.7323	0.0469	0.6854	-11.1089
10	10.74	0.01	0.2216	3.4404	-0.0320	-0.0246	-0.0215	0.7204	0.0469	0.6735	12.9274
11	12.43	0.02	0.5747	3.4646	-0.0460	-0.0246	-0.0206	0.7205	0.0469	0.6736	9.9955
12	14.90	0.02	0.8802	3.3679	-0.0615	-0.0143	-0.0262	0.7402	0.0469	0.6933	3.8263
13	16.97	0.02	1.1432	3.3102	-0.0616	-0.0449	-0.0318	0.7680	0.0469	0.7211	2.7977
14	19.06	0.02	1.4615	3.1704	-0.0414	-0.0494	-0.0306	0.7978	0.0469	0.7509	2.0570
15	21.08	0.02	1.7442	2.4421	-0.0423	-0.0453	-0.0361	0.8154	0.0442	0.7712	1.5274
16	23.20	0.02	2.3411	2.0117	-0.0469	-0.0444	-0.0481	0.8192	0.0415	0.7777	1.0960
17	0.57	0.02	-1.4621	6.3443	-0.0405	0.0013	-0.0318	1.0243	0.0415	0.9828	-4.3392

LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

PAGE 1 OF 1

MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST PART NAME: 35 2.36 2.5  
 PHI: 45.0  
 CONF: 0.10734  
 L: 0.0  
 DEL1: 20  
 DEL2: -20  
 DEL3: 20  
 DEL4: -20  
 TRANSITION: FIXED

POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAB	CAF	KCP
1	-3.60	0.06	-3.7786	14.5746	0.0004	-0.0374	-0.0260	2.0603	0.1655	1.6948	-3.9173
2	-2.07	0.04	-3.3434	13.7662	-0.0024	-0.0224	-0.0249	1.4734	0.1473	1.6065	-4.0567
3	-1.04	0.05	-3.1717	13.2185	-0.0004	-0.0144	-0.0340	1.4171	0.1631	1.7430	-4.1670
4	0.0	0.05	-2.9715	12.7511	0.0025	-0.0253	-0.0337	1.6523	0.1708	1.6915	-4.2911
5	1.06	0.05	-2.7747	12.2724	0.0044	-0.0413	-0.0336	1.7876	0.1724	1.6152	-4.4150
6	2.06	0.05	-2.5926	11.8204	-0.0051	-0.0215	-0.0376	1.7283	0.1741	1.5542	-4.5593
7	4.15	0.05	-2.1341	10.6743	-0.0032	-0.0444	-0.0372	1.5742	0.1725	1.4057	-4.9971
8	6.23	0.04	-1.4006	9.3257	-0.0304	0.0230	-0.0452	1.4171	0.1742	1.2379	-5.8271
9	4.32	0.04	-1.0521	8.0054	-0.0444	0.0457	-0.0446	1.2662	0.1826	1.0436	-7.0665
10	10.42	0.04	-0.4354	6.4553	-0.0445	0.0567	-0.0396	1.1317	0.1442	0.9475	-15.6229
11	12.55	0.03	0.1461	5.2175	-0.0560	0.0654	-0.0257	1.0334	0.1460	0.8474	31.7977
12	14.44	0.03	0.7430	5.2064	-0.0584	0.0445	-0.0243	0.9560	0.1460	0.7700	6.5654
13	14.47	0.03	1.3443	4.4733	-0.0511	0.0362	-0.0188	0.8447	0.1460	0.7027	3.2316
14	14.45	0.03	2.0354	3.6240	-0.0465	0.0496	-0.0172	0.7297	0.1460	0.6437	1.8165
15	21.14	0.03	2.4757	2.4271	-0.0456	0.0222	-0.0325	0.7711	0.1454	0.5852	1.8948
16	23.44	0.03	3.3474	1.4744	-0.0745	0.0453	-0.0309	0.7009	0.1426	0.5182	0.5811
17	0.0	0.06	-2.9645	12.7624	-0.0163	-0.0223	-0.0235	1.6509	0.1708	1.6901	-4.2988

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SHEET 1 OF 1

LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST FACT MACH HX10-0											
3 34 2.60 3.0 45.0 01.0F34 0.0 20 -20 20 -20 FIXED											
POINT	ALPHA	HFA	CM	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.51	0.06	-3.1410	12.2504	-0.0144	-0.0516	-0.0410	1.7946	0.1145	1.6801	-3.8392
2	-2.07	0.06	-2.4421	11.5407	-0.0164	-0.0534	-0.0407	1.7114	0.1161	1.5953	-4.0043
3	-1.04	0.06	-2.4444	11.0441	-0.0270	-0.0752	-0.0405	1.6446	0.1161	1.5325	-4.1457
4	0.02	0.05	-2.4706	10.5415	-0.0134	-0.0402	-0.0403	1.5822	0.1176	1.4646	-4.2826
5	1.06	0.05	-2.4605	10.0494	-0.0139	-0.0504	-0.0401	1.5144	0.1193	1.3951	-4.4678
6	2.04	0.05	-2.0653	9.4467	-0.0249	-0.0239	-0.0399	1.4525	0.1224	1.3301	-4.6885
7	4.17	0.05	-1.4555	8.7504	-0.0344	-0.0204	-0.0355	1.3201	0.1224	1.1477	-5.2827
8	6.25	0.05	-1.1511	7.5467	-0.0497	0.0120	-0.0350	1.1792	0.1272	1.0520	-6.5909
9	8.44	0.04	-0.8442	6.5006	-0.0501	0.0136	-0.0343	1.0703	0.1304	0.9349	-9.9376
10	10.44	0.04	-0.1044	5.4557	-0.0547	0.0142	-0.0243	0.9404	0.1337	0.8467	-54.0521
11	12.58	0.04	0.4147	5.0437	-0.0524	0.0204	-0.0207	0.9169	0.1336	0.7833	12.1471
12	14.73	0.04	0.9237	4.4586	-0.0553	0.0150	-0.0184	0.8644	0.1337	0.7311	4.8269
13	16.84	0.04	1.4587	3.4402	-0.0444	0.0151	-0.0176	0.8214	0.1336	0.6840	2.6283
14	19.04	0.03	1.9443	3.3752	-0.0526	0.0078	-0.0281	0.7615	0.1337	0.6478	1.6532
15	21.14	0.03	2.4340	2.7544	-0.0566	-0.0113	-0.0267	0.7523	0.1320	0.6203	1.0867
16	23.41	0.03	3.1459	2.0414	-0.0766	0.0129	-0.0292	0.7196	0.1304	0.5892	0.6448
17	0.02	0.06	-2.4758	10.6011	-0.0236	-0.0444	-0.0363	1.5804	0.1193	1.4611	-4.2819



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SHEET 1 OF 1

LANGLEY RESEARCH CENTER (ASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME ALIGN											
3 37 3.45 3.0 45.0 01-0F34 0.0 20 -20 20 -20 FIXED											
POINT	ALPHA	HFTA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-3.42	0.03	-2.4344	9.1614	0.0142	-0.0917	-0.0354	1.3882	0.3625	1.3257	-3.7603
2	-1.40	0.03	-2.1247	8.4944	0.0149	-0.0914	-0.0340	1.3046	0.0446	1.2400	-3.9902
3	-0.40	0.03	-1.7744	8.0077	-0.0047	-0.0521	-0.0245	1.2507	0.0446	1.1461	-4.1434
4	0.15	0.02	-1.7701	7.4742	0.0145	-0.0444	-0.0243	1.1412	0.0446	1.1266	-4.3377
5	1.16	0.03	-1.5702	7.2447	-0.0101	-0.0314	-0.0343	1.1327	0.0447	1.0660	-4.6166
6	2.19	0.02	-1.6313	6.8440	-0.0067	-0.0237	-0.0249	1.0771	0.0467	1.0104	-4.8880
7	4.27	0.02	-1.0276	6.0843	0.0004	-0.0438	-0.0243	0.9733	0.0467	0.9066	-5.9250
8	4.32	0.02	-0.8221	5.1941	-0.0213	-0.0144	-0.0224	0.8477	0.0489	0.8144	-6.5262
9	-4.42	0.02	-0.2142	4.8322	-0.0201	-0.0148	-0.0217	0.8247	0.0710	0.7537	-21.1322
10	10.45	0.02	0.1730	4.2015	-0.0304	-0.0137	-0.0206	0.7476	0.0731	0.7145	24.2461
11	12.52	0.02	0.5537	3.8756	-0.0213	-0.0270	-0.0195	0.7634	0.0731	0.6907	6.9995
12	14.62	0.02	0.4274	3.6077	-0.0347	-0.0211	-0.0237	0.7510	0.0731	0.6779	3.8902
13	16.73	0.02	1.3059	3.4147	-0.0214	-0.0473	-0.0225	0.7552	0.0731	0.6621	2.6150
14	18.86	0.02	1.7303	3.2702	-0.0254	-0.0446	-0.0263	0.7653	0.0710	0.6943	1.0535
15	20.89	0.02	2.1848	2.4413	-0.0197	-0.0746	-0.0196	0.7650	0.0710	0.6940	1.3562
16	23.13	0.02	2.7327	2.4944	-0.0329	-0.0747	-0.0234	0.7499	0.0667	0.6632	0.9130
17	0.17	0.03	-1.7549	7.6590	-0.0001	-0.0444	-0.0243	1.1861	0.0467	1.1194	-4.3643

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SHEET 1 OF 1

LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

NAUTIC MISSILE TAIL EFFECTS DATA

TEST	POINT	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND
3	3A	0.02	3.0	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
POINT	ALPHA	HETA	CN	CLM	CY	CLM	CLL	CA	CAR	CAF	ACP	
1	-2.99	0.02	-2.1136	8.0054	0.0056	-0.0435	-0.0257	1.2452	0.0459	1.1493	-3.7878	
2	-1.51	0.02	-1.4765	7.4575	-0.0049	-0.0453	-0.0256	1.1677	0.0459	1.1218	-3.9743	
3	-0.40	0.02	-1.4703	7.0142	-0.0134	-0.0363	-0.0252	1.1044	0.0459	1.0625	-4.2024	
4	0.57	0.02	-1.4417	6.6263	-0.0053	-0.0402	-0.0249	1.0547	0.0486	1.0061	-4.4721	
5	1.59	0.02	-1.3132	6.2543	-0.0146	-0.0376	-0.0247	1.0019	0.0486	0.9533	-4.7664	
6	2.59	0.02	-1.1270	5.4441	-0.0040	-0.0363	-0.0244	0.9546	0.0485	0.9061	-5.2334	
7	4.60	0.02	-0.7494	5.2512	-0.0304	-0.0145	-0.0238	0.8655	0.0486	0.8169	-6.7254	
8	6.69	0.02	-0.4144	4.5441	-0.0335	-0.0325	-0.0231	0.7947	0.0513	0.7434	-11.0316	
9	8.78	0.02	-0.1375	4.0456	-0.0334	-0.0445	-0.0223	0.7445	0.0513	0.6972	-108.4000	
10	10.80	0.02	0.3010	3.7574	-0.0564	-0.0175	-0.0208	0.7257	0.0513	0.6744	12.4831	
11	12.84	0.02	0.6204	3.5045	-0.0494	-0.0145	-0.0204	0.7166	0.0513	0.6653	5.6507	
12	14.91	0.02	0.9157	3.4007	-0.0544	-0.0145	-0.0194	0.7251	0.0513	0.6738	3.7138	
13	16.97	0.02	1.2426	3.2102	-0.0342	-0.0550	-0.0143	0.7287	0.0513	0.6774	2.5834	
14	19.07	0.02	1.6411	2.8497	-0.0324	-0.0442	-0.0171	0.7272	0.0513	0.6759	1.7444	
15	21.16	0.02	2.0752	2.4500	-0.0363	-0.0702	-0.0159	0.7202	0.0486	0.6716	1.2240	
16	23.25	0.02	2.5624	2.1145	-0.0429	-0.0656	-0.0212	0.7054	0.0486	0.6568	0.8252	
17	0.50	0.02	-1.4402	6.6366	-0.0034	-0.0625	-0.0249	1.0570	0.0486	1.0084	-4.4837	



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SHEET 1 OF 1

LANGLEY RESEARCH CENTER (NASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	WALCH	#110-6	PM1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	on	2.00	3.0	0.0	81.00F34	0.0	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CN	CLP	CY	CLN	CLL	Ca	CaB	CAF	KCP
1	-3.74	0.01	-2.4414	0.0047	-0.0144	-0.0093	-0.0350	1.1393	0.1077	1.0316	-3.6584
2	-2.26	0.01	-2.1694	0.0360	-0.0233	-0.0624	-0.0346	1.0774	0.1077	0.9647	-3.8625
3	-1.21	0.01	-1.9444	7.4183	-0.0243	-0.0434	-0.0344	1.0312	0.1043	0.9219	-4.0268
4	-0.14	0.01	-1.7407	7.4467	-0.0195	-0.0547	-0.0381	0.9446	0.1125	0.8721	-4.2535
5	0.84	0.01	-1.5460	6.4725	-0.0044	-0.0662	-0.0339	0.9344	0.1141	0.8247	-4.5100
6	1.92	0.01	-1.4416	6.5059	-0.0161	-0.0573	-0.0336	0.8958	0.1173	0.7785	-4.8510
7	4.02	0.01	-0.9216	5.5716	-0.0127	-0.0546	-0.0370	0.8044	0.1205	0.6839	-6.0495
8	6.04	0.01	-0.6727	4.6216	-0.0244	-0.0245	-0.0364	0.7138	0.1237	0.5901	-9.7774
9	8.22	0.01	0.0571	3.5814	-0.0243	-0.0304	-0.0344	0.6190	0.1237	0.4953	62.0203
10	10.33	0.01	0.4562	2.4451	-0.0274	-0.0245	-0.0363	0.5392	0.1237	0.4155	3.7262
11	12.46	0.01	1.2351	1.6046	-0.0264	-0.0454	-0.0331	0.4843	0.1253	0.3590	1.2991
12	14.61	0.02	1.7454	1.0666	-0.0374	-0.0213	-0.0278	0.4541	0.1253	0.3288	0.6111
13	16.77	0.02	2.2571	0.6073	-0.0371	-0.0428	-0.0303	0.4307	0.1253	0.3054	0.2698
14	18.01	0.02	2.7472	0.1140	-0.0531	-0.0534	-0.0246	0.4074	0.1221	0.2853	0.0403
15	21.04	0.02	3.3254	-0.4011	-0.0352	-0.1051	-0.0235	0.3879	0.1205	0.2674	-0.1206
16	23.26	0.02	3.9226	-1.0736	-0.0447	-0.0753	-0.0244	0.3633	0.1173	0.2460	-0.2737
17	-0.14	0.01	-1.7465	7.4401	-0.0196	-0.0647	-0.0380	0.9850	0.1141	0.8709	-4.2551

TEST BODY = ALM 4110-6		PHI CONF		L		DEL1 DEL2 DEL3 DEL4 TRANSITION					
3 41 3.95 3.0		0.0 0100F30		0.0		0 -20 0 -20 FIXED					
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-3.65	0.0	-1.9001	6.7044	0.0026	-0.0741	-0.0210	0.8857	0.0664	0.8193	-3.5700
2	-2.13	0.01	-1.4307	4.2213	-0.0104	-0.0479	-0.0206	0.8253	0.0664	0.7589	-3.8151
3	-1.11	0.0	-1.4411	5.4142	-0.0071	-0.0470	-0.0256	0.7835	0.0664	0.7171	-4.0409
4	-0.05	0.0	-1.2474	5.3495	0.0067	-0.0476	-0.0253	0.7425	0.0665	0.6740	-4.3217
5	0.97	0.0	-1.0546	4.9869	-0.0055	-0.0462	-0.0250	0.7034	0.0665	0.6349	-4.7270
6	1.98	0.0	-0.9053	4.6304	0.0004	-0.0449	-0.0248	0.6657	0.0685	0.5972	-5.1430
7	4.07	0.0	-0.4750	3.7734	-0.0054	-0.0399	-0.0240	0.5661	0.0706	0.5155	-7.8941
8	4.14	0.0	-0.4551	2.9167	-0.0117	-0.0308	-0.0243	0.5114	0.0706	0.4412	-51.8103
9	8.23	0.0	0.3352	2.5217	-0.0074	-0.0333	-0.0172	0.4686	0.0727	0.3959	6.9264
10	10.27	0.01	0.7203	1.9273	-0.0173	-0.0226	-0.0213	0.4479	0.0728	0.3751	2.6757
11	12.34	0.01	1.0647	1.7201	-0.0121	-0.0431	-0.0202	0.4411	0.0728	0.3683	1.6156
12	14.44	0.01	1.4542	1.4414	-0.0301	-0.0334	-0.0242	0.4362	0.0728	0.3634	1.0224
13	16.55	0.01	1.7734	1.2642	-0.0276	-0.0508	-0.0230	0.4375	0.0706	0.3669	0.6821
14	18.71	0.01	2.2239	1.0632	-0.0070	-0.0416	-0.0269	0.4380	0.0706	0.3674	0.4393
15	20.71	0.01	2.7395	0.6779	-0.0225	-0.0709	-0.0263	0.4344	0.0685	0.3714	0.2475
16	22.92	0.01	3.2806	0.2461	-0.0417	-0.0465	-0.0135	0.4385	0.0664	0.3721	0.0749
17	-0.04	0.01	-1.2469	5.3401	-0.0144	-0.0307	-0.0253	0.7395	0.0685	0.6710	-4.3228

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SHEET 1 OF 1

## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## NANTIA MISSILE TAIL EFFECTS DATA

TEST	PART	NAME	WIND	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	42	4.03	3.0	0.0	1140F34	0.0	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAR	CAF	XCP
1	-3.27	0.0	-1.4434	5.4706	-0.0083	-0.0332	-0.0204	0.7454	0.0507	0.7447	-3.5593
2	-1.75	0.0	-1.7433	5.3715	0.0011	-0.0442	-0.0200	0.7364	0.0507	0.6457	-3.8555
3	-0.75	0.0	-1.2287	4.4555	0.0054	-0.0532	-0.0197	0.6975	0.0507	0.6448	-4.0923
4	0.31	0.0	-1.0234	4.6324	-0.0105	-0.0328	-0.0193	0.6592	0.0507	0.6045	-4.4953
5	1.36	0.0	-0.4521	4.2579	-0.0061	-0.0337	-0.0190	0.6200	0.0507	0.5693	-4.9978
6	2.34	0.0	-0.6563	3.4417	-0.0004	-0.0443	-0.0187	0.5843	0.0507	0.5336	-5.9145
7	4.41	0.0	-0.2440	3.1643	0.0114	-0.0540	-0.0180	0.5113	0.0534	0.4579	-10.9491
8	6.46	0.0	0.1040	2.5036	0.0177	-0.0445	-0.0239	0.4546	0.0534	0.4062	25.0360
9	8.51	0.0	0.4024	2.1412	0.0116	-0.0531	-0.0230	0.4359	0.0534	0.3825	5.4399
10	10.54	0.0	0.7247	1.4545	-0.0012	-0.0546	-0.0270	0.4283	0.0534	0.3749	2.6826
11	12.58	0.0	1.0772	1.4024	0.0111	-0.0702	-0.0210	0.4252	0.0534	0.3718	1.7552
12	14.60	0.0	1.3642	1.0014	-0.0047	-0.0446	-0.0199	0.4240	0.0534	0.3726	1.1722
13	16.74	0.0	1.7247	1.3763	0.0044	-0.0441	-0.0255	0.4324	0.0534	0.3790	0.7957
14	18.47	0.01	2.1175	1.0477	-0.0042	-0.0747	-0.0176	0.4349	0.0507	0.3842	0.5184
15	20.44	0.01	2.5321	0.7767	-0.0233	-0.0439	-0.0163	0.4448	0.0507	0.3961	0.3076
16	23.02	0.01	3.0231	0.3511	-0.0402	-0.0769	-0.0244	0.4444	0.0480	0.4008	0.1161
17	0.32	0.0	-1.0251	4.6092	-0.0106	-0.0327	-0.0194	0.6596	0.0440	0.6118	-4.4954

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST DATA		WIND TUNNEL		MARTIN MISSILE		L		DEL1		DEL2		DEL3		DEL4		TRANSITION	
3	49	2.30	3.0	0.0	0.0	0.0	0.0	0	-20	0	-20	0	-20	0	-20	FIXED	
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	CA	CAR	CAF	ACP						
1	-3.44	0.02	-2.4501	11.2407	-0.0570	0.0908	0.0084	1.3652	0.1355	1.2297	-3.8103						
2	-2.12	0.02	-2.6154	10.4582	-0.0671	0.1104	0.0101	1.2882	0.1396	1.1486	-3.9926						
3	-1.44	0.02	-2.3441	9.4580	-0.0820	0.1374	0.0008	1.2340	0.1437	1.0903	-4.1273						
4	-0.01	0.01	-2.1483	9.2713	-0.0867	0.1752	0.0054	1.1797	0.1465	1.0332	-4.2759						
5	0.93	0.01	-1.9350	8.8413	-0.0860	0.1356	0.0017	1.1279	0.1494	0.9745	-4.4393						
6	2.04	0.01	-1.7024	8.0717	-0.0830	0.1452	0.0012	1.0705	0.1508	0.9197	-4.7413						
7	4.07	0.01	-1.2526	6.7443	-0.0768	0.1445	0.0004	0.9707	0.1564	0.8143	-5.5430						
8	6.24	0.01	-0.7417	5.7443	-0.0624	0.1042	-0.0003	0.8669	0.1607	0.7062	-7.6364						
9	8.44	0.02	-0.2471	4.5777	-0.0440	0.2278	-0.0031	0.7661	0.1593	0.6058	-19.8946						
10	10.51	0.02	0.3478	3.4406	-0.1044	0.2448	-0.0055	0.6767	0.1593	0.5174	8.7828						
11	12.58	0.02	1.1180	2.1135	-0.1043	0.2243	-0.0041	0.5722	0.1594	0.4128	1.8893						
12	14.87	0.02	1.8307	0.6765	-0.0975	0.2344	0.0113	0.4891	0.1594	0.3297	0.5345						
13	17.07	0.02	2.4755	0.1040	-0.1133	0.2477	0.0198	0.4367	0.1608	0.2779	0.0673						
14	19.33	0.02	3.1141	-0.4615	-0.1004	0.2417	0.0259	0.3972	0.1621	0.2351	-0.1800						
15	21.43	0.03	3.7370	-1.2214	-0.1135	0.2225	0.0397	0.3593	0.1608	0.1945	-0.3269						
16	23.72	0.03	4.4217	-2.0407	-0.1325	0.2423	0.0433	0.3168	0.1591	0.1577	-0.4766						
17	-3.02	0.01	-2.1500	9.2467	-0.0528	0.1076	0.0054	1.1754	0.1466	1.0288	-4.2928						

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LANGLEY RESEARCH CENTER (NASA)      UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	NAME	PAID	NO	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	44	2.86	3.0		0.0	W10UF33	0.0	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP	
1	-3.77	0.01	-2.4626	0.5184	-0.0274	0.6307	-0.0034	1.1459	0.0981	1.0878	-3.7146	
2	-2.75	0.01	-2.2247	0.7221	-0.0268	0.0306	-0.0014	1.1144	0.1013	1.0131	-3.9135	
3	-1.21	0.01	-2.0044	0.1403	-0.0256	0.0260	-0.0001	1.0638	0.1045	0.9593	-4.0748	
4	-0.16	0.01	-1.7405	7.6690	-0.0295	0.0396	-0.0026	1.0142	0.1061	0.9081	-4.2834	
5	0.91	0.01	-1.5704	7.1611	-0.0350	0.0563	-0.0030	0.9658	0.1077	0.8501	-4.5458	
6	1.92	0.01	-1.3070	0.6500	-0.0395	0.0744	-0.0034	0.9194	0.1109	0.8045	-4.8653	
7	4.02	0.01	-0.9321	5.8580	-0.0334	0.0824	-0.0043	0.8264	0.1141	0.7123	-6.0706	
8	6.09	0.01	-0.4524	4.0711	-0.0443	0.1010	-0.0128	0.7369	0.1173	0.6196	-9.6830	
9	9.19	0.01	0.0332	3.5482	-0.0405	0.1045	-0.0120	0.6426	0.1173	0.5253	104.3801	
10	10.31	0.01	0.4461	2.4427	-0.0560	0.1424	-0.0030	0.5647	0.1189	0.4458	3.7806	
11	12.46	0.01	1.2402	1.5841	-0.0709	0.1594	0.0023	0.5062	0.1189	0.3673	1.2773	
12	14.59	0.01	1.7414	1.0323	-0.0799	0.1414	0.0115	0.4767	0.1189	0.3578	0.5927	
13	16.77	0.01	2.2500	0.5639	-0.0781	0.1794	0.0124	0.4509	0.1173	0.3336	0.2501	
14	18.94	0.02	2.7950	0.0640	-0.0931	0.1406	0.0193	0.4319	0.1173	0.3146	0.0229	
15	21.03	0.02	3.3151	-0.4060	-0.0799	0.1711	0.0305	0.4118	0.1157	0.2941	-0.1407	
16	23.26	0.02	3.9154	-1.1660	-0.1035	0.2106	0.0342	0.3874	0.1125	0.2749	-0.2926	
17	-0.13	0.01	-1.7751	7.6485	-0.0322	0.0395	-0.0026	1.0124	0.1061	0.9063	-4.3088	



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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MANTIN MISSILE TAIL EFFECTS DATA

TEST BODY PLAN DATA-6				MM	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3 45 3.45 3.6				0.0	H1.0F33	0.0	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CX	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.64	0.01	-1.9349	7.0077	-0.0293	0.0397	0.0053	0.9077	0.0598	0.8479	-3.6124
2	-2.11	0.01	-1.8444	4.3777	-0.0305	0.0453	0.0076	0.8472	0.0598	0.7474	-3.8691
3	-1.13	0.01	-1.4745	5.9831	-0.0300	0.0425	0.0043	0.8040	0.0420	0.7440	-4.0606
4	-0.05	0.01	-1.2745	5.5462	-0.0420	0.0574	0.0114	0.7644	0.0620	0.7028	-4.3297
5	0.98	0.01	-1.0545	5.1133	-0.0331	0.0446	0.0056	0.7236	0.0642	0.6594	-4.7149
6	1.49	0.0	-0.9144	4.7201	-0.0246	0.0418	0.0049	0.6840	0.0663	0.6177	-5.1844
7	4.07	0.0	-0.5545	3.6733	-0.0257	0.0529	0.0038	0.6055	0.0663	0.5392	-7.6458
8	4.12	0.0	-0.1447	3.0024	-0.0342	0.0447	0.0024	0.5340	0.0684	0.4656	-35.6577
9	4.20	0.0	0.3745	2.3711	-0.0301	0.0441	0.0037	0.4449	0.0484	0.4215	7.6585
10	10.26	0.01	0.6440	1.9733	-0.0544	0.1170	0.0046	0.4708	0.0644	0.4024	2.8271
11	17.32	0.01	1.0644	1.7175	-0.0524	0.1144	0.0111	0.4448	0.0705	0.3943	1.6136
12	14.42	0.01	1.4443	1.4973	-0.0711	0.1413	0.0176	0.4608	0.0684	0.3924	1.0338
13	16.54	0.01	1.4444	1.2264	-0.0677	0.1371	0.0189	0.4544	0.0663	0.3925	0.6571
14	14.56	0.01	2.2440	0.4771	-0.0642	0.1355	0.0105	0.4592	0.0647	0.3950	0.4282
15	24.71	0.01	2.7448	0.6267	-0.0831	0.1517	0.0303	0.4601	0.0620	0.3981	0.2288
16	22.83	0.01	3.2476	0.2214	-0.0834	0.1683	0.0345	0.4596	0.0599	0.3997	0.0676
17	-0.85	0.0	-1.2574	5.5056	-0.0204	0.0173	0.0061	0.7585	0.0620	0.6965	-4.3768

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	WALL	PRIO	W	CONF	L	UEL1	UEL2	UEL3	UEL4	TRANSITION
3	46	4.63	3.0	0.0	H1=0F33	0.0	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CX	CLM	CY	CLN	CLL	CA	CAR	CAF	XCP
1	-3.26	0.0	-1.6970	6.1050	-0.0161	0.0245	-0.0002	0.8157	0.0453	0.7704	-3.5975
2	-1.75	0.0	-1.4204	5.5254	-0.0055	0.0258	0.0097	0.7564	0.0453	0.7116	-3.8732
3	-0.76	0.0	-1.2729	5.1162	-0.0249	0.0464	0.0052	0.7162	0.0453	0.6709	-4.1632
4	0.30	0.0	-1.0500	4.7545	-0.0146	0.0336	0.0074	0.6779	0.0453	0.6326	-4.5024
5	1.34	0.0	-0.8595	4.3464	-0.0110	0.0275	0.0067	0.6408	0.0480	0.5928	-5.0575
6	2.33	0.0	-0.6473	4.0013	-0.0320	0.0575	0.0059	0.6046	0.0480	0.5566	-5.8210
7	4.41	0.0	-0.3212	3.2464	-0.0185	0.0459	0.0042	0.5323	0.0480	0.4843	-10.1709
8	6.66	0.0	0.0074	2.4094	-0.0115	0.0433	-0.0038	0.4832	0.0507	0.4325	30.7157
9	8.51	0.0	0.4659	2.2279	-0.0161	0.0433	-0.0029	0.4606	0.0507	0.4101	5.6275
10	10.53	0.0	0.7147	1.9895	-0.0284	0.0945	0.0048	0.4554	0.0507	0.4047	2.7644
11	12.60	0.0	1.0194	1.6284	-0.0431	0.1036	0.0058	0.4524	0.0507	0.4022	1.7940
12	14.67	0.0	1.4662	1.6113	-0.0311	0.0887	0.0069	0.4509	0.0507	0.4002	1.1794
13	16.73	0.0	1.7379	1.3613	-0.0462	0.1040	0.0080	0.4574	0.0480	0.4044	0.7833
14	18.44	0.01	2.1245	1.4704	-0.0634	0.1272	0.0100	0.4652	0.0453	0.4199	0.5028
15	20.45	0.01	2.4385	0.7347	-0.0744	0.1543	0.0212	0.4719	0.0453	0.4266	0.2899
16	23.00	0.01	3.0329	0.2926	-0.0873	0.1811	0.0126	0.4734	0.0426	0.4308	0.0965
17	0.32	0.0	-1.0546	4.7387	-0.0177	0.0324	0.0074	0.6794	0.0453	0.6341	-4.4891

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	WAL	PAU	W	CON	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	47	2.36	2.5	45.0	0.10433	0.0	20	-20	20	-20	FIXED
POINT	ALPHA	BETA	CH	CLM	CV	CLN	CLL	CA	CAS	CAF	XCP
1	-3.60	0.07	-4.0530	16.1274	-0.0019	-0.1230	-0.0211	2.7363	0.1505	2.0858	-3.9791
2	-2.07	0.07	-3.8751	14.4744	-0.0086	-0.0359	-0.0243	2.1098	0.1556	1.9542	-4.1209
3	-1.36	0.07	-3.0016	14.3213	-0.0057	-0.1165	-0.0242	2.5249	0.1573	1.8696	-4.2099
4	0.02	0.06	-3.1465	13.8374	-0.0066	-0.0929	-0.0241	1.4484	0.1507	1.7877	-4.3341
5	1.08	0.06	-2.4237	13.0216	-0.0146	-0.0673	-0.0240	1.6722	0.1641	1.7061	-4.4564
6	2.07	0.06	-2.4412	12.4405	-0.0280	-0.0533	-0.0413	1.4013	0.1658	1.6355	-4.6227
7	4.16	0.06	-2.1544	11.0969	-0.0104	-0.1094	-0.0369	1.6343	0.1657	1.4686	-5.0675
8	6.25	0.05	-1.6353	4.6211	-0.0141	-0.0766	-0.0408	1.4549	0.1692	1.2907	-5.8834
9	8.33	0.04	-1.7792	8.2569	-0.0156	-0.0576	-0.0496	1.4354	0.1759	1.1295	-7.6698
10	10.43	0.04	-0.6634	7.0373	-0.0265	-0.0546	-0.0394	1.1752	0.1910	0.9942	-13.1732
11	12.55	0.04	0.1416	6.0454	-0.0384	-0.0342	-0.0257	1.0732	0.1844	0.8688	-2.9785
12	14.72	0.04	0.7824	5.2614	-0.0360	-0.0534	-0.0243	0.9911	0.1843	0.8068	6.7485
13	16.96	0.04	1.0115	4.4776	-0.0434	-0.0422	-0.0270	0.9222	0.1844	0.7378	3.1722
14	19.16	0.04	2.1752	3.6615	-0.0650	-0.0419	-0.0213	0.8575	0.1844	0.6731	1.7644
15	21.17	0.03	2.7141	2.8263	-0.0759	0.0462	-0.0450	0.7905	0.1827	0.6076	1.0396
16	23.40	0.03	3.4361	1.8064	-0.0754	-0.0241	-0.0393	0.7184	0.1810	0.5374	0.5260
17	0.02	0.06	-3.1544	13.6547	0.0022	-0.1059	-0.0333	1.4645	0.1624	1.7861	-4.3231

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART -ALM NA10-6											
3 4A 2.00 3.00 45.0 d1=0F33 0.0 20 -20 20 -20 FIXED											
POINT	ALPHA	BETA	CX	CLM	CY	CLN	CLL	CA	CAR	CAF	KCP
1	-3.40	0.05	-3.3204	12.9921	0.0064	-0.1428	-0.0366	1.0623	0.1000	1.7623	-3.8947
2	-2.04	0.06	-2.9622	12.0401	0.0043	-0.1240	-0.0365	1.7600	0.1032	1.6568	-4.0564
3	-1.03	0.06	-2.7600	11.5143	0.0107	-0.1319	-0.0403	1.4743	0.1049	1.5094	-4.1706
4	0.04	0.05	-2.5641	10.4764	0.0013	-0.1147	-0.0362	1.6267	0.1097	1.5170	-4.3139
5	1.04	0.05	-2.3370	10.4764	0.0063	-0.1276	-0.0399	1.5586	0.1097	1.4489	-4.4829
6	2.08	0.05	-2.1242	9.9937	0.0049	-0.1153	-0.0398	1.4934	0.1129	1.3805	-4.6936
7	4.18	0.04	-1.7113	9.0141	0.0062	-0.1179	-0.0354	1.3551	0.1145	1.2406	-5.2703
8	6.27	0.04	-1.1477	7.7411	0.0060	-0.0944	-0.0349	1.2117	0.1193	1.0924	-6.5050
9	7.30	0.04	-0.6971	6.7593	-0.0154	-0.0633	-0.0302	1.1036	0.1257	0.9779	-6.7107
10	10.46	0.03	-0.1533	5.4262	-0.0674	-0.0926	-0.0332	1.0162	0.1249	0.8873	-38.0053
11	12.50	0.03	0.3555	5.1461	-0.0104	-0.1006	-0.0281	0.9509	0.1289	0.8220	14.5529
12	14.74	0.03	0.4920	4.5771	-0.0151	-0.1031	-0.0264	0.9005	0.1289	0.7716	9.1313
13	16.89	0.03	1.4551	3.4764	-0.0337	-0.0844	-0.0295	0.8460	0.1289	0.7171	2.6643
14	19.10	0.03	2.0214	3.2551	-0.0307	-0.0859	-0.0363	0.8023	0.1289	0.6734	1.6100
15	21.15	0.03	2.5574	2.8724	-0.0354	-0.0874	-0.0340	0.7645	0.1273	0.6412	1.0460
16	23.46	0.03	3.1936	1.9024	-0.0449	-0.0949	-0.0411	0.7307	0.1257	0.6050	0.5957
17	0.03	0.05	-2.5346	10.9710	0.0140	-0.1339	-0.0362	1.6260	0.1097	1.5163	-4.3265

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MANTIA MISSILE TAIL EFFECTS DATA

TEST	PART	WALW	X10=0	PHI	CUMF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	49	3.05	3.0	45.0	01WUF33	0.0	20	-20	20	-20	FIXED
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAR	CAF	XCP
1	-3.43	0.00	-2.4471	9.4804	0.0001	-0.1243	-0.0247	1.4342	0.0562	1.3780	-3.8120
2	-1.40	0.03	-2.1975	8.4037	0.0234	-0.1243	-0.0244	1.3449	0.0562	1.2847	-4.0062
3	-0.44	0.03	-2.0114	8.3714	0.0122	-0.1011	-0.0149	1.2874	0.0462	1.2316	-4.1620
4	0.16	0.03	-1.4275	7.4313	0.0036	-0.0735	-0.0240	1.2264	0.0583	1.1691	-4.3400
5	1.19	0.03	-1.4266	7.5001	0.0000	-0.0744	-0.0237	1.1764	0.0583	1.1121	-4.6109
6	2.18	0.03	-1.4527	7.1043	-0.0125	-0.0490	-0.0235	1.1152	0.0605	1.0547	-4.8904
7	4.30	0.02	-1.4633	6.2444	0.0124	-0.0003	-0.0230	1.0070	0.0626	0.9444	-5.9197
8	6.31	0.02	-1.4644	5.4442	-0.0144	-0.0417	-0.0224	0.9230	0.0447	0.8583	-8.2136
9	8.40	0.02	-0.7623	4.4234	-0.0004	-0.0408	-0.0216	0.8592	0.0669	0.7923	-14.3908
10	10.47	0.02	0.1000	4.4113	0.0021	-0.0641	-0.0207	0.8170	0.0669	0.7501	47.4163
11	12.53	0.02	0.5050	4.0171	-0.0149	-0.0748	-0.0249	0.7849	0.0669	0.7180	7.9547
12	14.60	0.02	0.5803	3.7162	-0.0640	-0.0843	-0.0238	0.7726	0.0669	0.7057	4.2215
13	16.76	0.02	1.2923	3.4774	-0.0023	-0.1156	-0.0277	0.7777	0.0669	0.7108	2.6908
14	18.85	0.02	1.7045	3.2441	-0.0204	-0.1045	-0.0317	0.7760	0.0647	0.7113	1.9040
15	20.90	0.02	2.1441	2.4450	-0.0172	-0.1247	-0.0250	0.7633	0.0626	0.7007	1.3096
16	23.04	0.02	2.7552	2.3466	-0.0347	-0.1048	-0.0288	0.7358	0.0605	0.6753	0.8510
17	0.16	0.03	-1.4143	7.9055	0.0199	-0.1105	-0.0240	1.2249	0.0605	1.1644	-4.3573

LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

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MARTIN MISSILE TAIL EFFECTS DATA

SHEET 1 OF 1

TEST BODY NAME: RAU-6											
3 50 4.63 3.0 45.0 01.0F33 0.0 20 -20 20 -20 FIXED											
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	CA	CAS	CAF	RCP
1	-3.06	0.02	-2.2033	6.3762	0.0101	-0.1001	-0.0122	1.2974	0.0433	1.2541	-3.7989
2	-1.44	0.02	-1.4175	7.4462	0.0154	-0.1049	-0.0146	1.2044	0.0406	1.1660	-4.0137
3	-0.47	0.02	-1.7257	7.2463	-0.0043	-0.0416	-0.0117	1.1493	0.0406	1.1087	-4.2201
4	0.57	0.02	-1.5406	6.4406	-0.0010	-0.0764	-0.0181	1.0931	0.0433	1.0494	-4.4662
5	1.54	0.02	-1.3691	4.5047	-0.0064	-0.0711	-0.0179	1.0421	0.0433	0.9948	-4.7548
6	2.60	0.02	-1.1456	4.1597	-0.0174	-0.0575	-0.0176	0.9913	0.0433	0.9480	-5.1520
7	4.76	0.02	-0.8124	5.4473	0.0014	-0.0414	-0.0237	0.8999	0.0433	0.8556	-6.7007
8	4.49	0.01	-0.4471	4.1674	0.0020	-0.0714	-0.0230	0.8312	0.0460	0.7852	-10.6630
9	4.76	0.01	-0.1152	4.3167	0.0057	-0.0948	-0.0290	0.7819	0.0460	0.7359	-37.4208
10	10.79	0.01	0.2062	3.9426	0.0257	-0.1252	-0.0281	0.7534	0.0487	0.7047	19.3143
11	12.84	0.01	0.5349	3.7247	0.0104	-0.1254	-0.0271	0.7449	0.0487	0.6962	6.9379
12	14.48	0.01	0.4352	3.5733	-0.0052	-0.1092	-0.0261	0.7462	0.0487	0.6955	4.2784
13	16.98	0.01	1.2204	3.2687	-0.0052	-0.1308	-0.0317	0.7343	0.0460	0.6683	2.6751
14	14.12	0.01	1.4755	2.6446	-0.0104	-0.1219	-0.0236	0.7174	0.0460	0.6718	1.6978
15	21.09	0.01	2.1054	2.4407	0.0002	-0.1340	-0.0226	0.6998	0.0433	0.6565	1.1590
16	23.26	0.01	2.6444	1.8762	-0.0271	-0.1004	-0.0274	0.6758	0.0406	0.6352	0.7095
17	0.57	0.02	-1.5406	6.4406	-0.0010	-0.0764	-0.0181	1.0931	0.0406	1.0525	-4.4662

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME RX10-6											
3 51 2.36 2.9 0.0 01.0F33 0.0 0 0 0 0 FIRED											
POINT	ALPHA	RYTA	CN	CLN	CY	CLN	CLL	CA	CAH	CAF	KCP
1	-3.56	0.0	-0.7029	1.4784	-0.0357	0.1391	-0.0119	0.4478	0.1219	0.3259	-2.3078
2	-2.01	0.0	-0.3834	0.6270	-0.0533	0.1720	-0.0150	0.4441	0.1191	0.3250	-2.4193
3	-0.44	0.0	-0.1037	0.4555	-0.0400	0.1442	-0.0123	0.4419	0.1163	0.3256	-2.4800
4	0.09	0.0	0.0158	-0.0157	-0.0686	0.2024	-0.0179	0.4415	0.1163	0.3252	-1.8898
5	1.13	0.0	0.2145	-0.4692	-0.0567	0.1879	-0.0140	0.4434	0.1162	0.3272	-2.1844
6	2.15	0.01	0.4016	-0.6145	-0.0735	0.2103	-0.0137	0.4450	0.1192	0.3258	-2.2772
7	4.20	0.0	0.8114	-1.0451	-0.0611	0.2153	-0.0094	0.4551	0.1265	0.3286	-2.3218
8	6.33	0.0	1.2742	-2.4324	-0.0618	0.2267	-0.0194	0.4746	0.1382	0.3364	-2.3013
9	8.48	0.01	1.7935	-4.4242	-0.0754	0.2457	-0.0219	0.4886	0.1455	0.3431	-2.2434
10	10.59	0.01	2.4166	-5.2094	-0.0922	0.2686	-0.0295	0.4975	0.1484	0.3491	-2.1559
11	12.77	0.01	3.0942	-6.9397	-0.1040	0.2981	-0.0225	0.4995	0.1481	0.3514	-2.0489
12	14.94	0.01	3.7653	-7.4345	-0.0944	0.2450	-0.0135	0.4966	0.1451	0.3515	-1.9636
13	17.13	0.01	4.5240	-8.6357	-0.1140	0.3005	-0.0115	0.5020	0.1408	0.3612	-1.9085
14	19.36	0.02	5.2834	-9.4542	-0.1034	0.2499	0.0045	0.5104	0.1349	0.3757	-1.8661
15	21.54	0.01	6.0451	-11.1544	-0.1050	0.2440	0.0049	0.5197	0.1276	0.3921	-1.8422
16	23.79	0.02	6.8400	-12.6467	-0.1237	0.3222	0.0055	0.5347	0.1204	0.4143	-1.8337
17	0.09	0.01	0.0150	-0.0160	-0.0834	0.2215	-0.0144	0.4384	0.1159	0.3225	-1.8000

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LANOLEY RESEARCH CENTER (NASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST NAME	WALL	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA
3	SP	2.30	2.9	45.0	01-0133	0.0	0	0	0	0	0	FIXED
POINT	ALPHA	6F1A	CN	CLM	CY	CLN	CEL	CA	CAR	CAF	KCP	
1	-3.57	0.02	-0.0003	1.5769	-0.0264	0.0450	-0.0199	0.4440	0.1188	0.3252	-2.2757	
2	-1.97	0.01	-0.0300	0.0560	-0.0225	0.0394	-0.0169	0.4434	0.1175	0.3259	-2.2443	
3	-0.97	0.01	-0.0187	0.3970	-0.0317	0.0664	-0.0142	0.4419	0.1175	0.3244	-2.1969	
4	0.10	0.01	0.0280	-0.0005	-0.0504	0.0957	-0.0216	0.4411	0.1160	0.3251	-3.1657	
5	1.14	0.01	0.2080	-0.0274	-0.0385	0.0753	-0.0178	0.4432	0.1160	0.3272	-2.5260	
6	2.14	0.0	0.3970	-0.0093	-0.0375	0.0835	-0.0140	0.4443	0.1174	0.3269	-2.4857	
7	4.23	-0.01	0.4034	-1.0001	-0.0251	0.0870	-0.0207	0.4515	0.1218	0.3297	-2.4470	
8	6.31	-0.01	1.2435	-3.1007	-0.0244	0.0871	-0.0236	0.4677	0.1335	0.3342	-2.3971	
9	8.44	-0.01	1.4252	-4.2523	-0.0007	0.1020	-0.0228	0.4786	0.1409	0.3377	-2.3259	
10	10.55	-0.01	2.4614	-5.4467	-0.0701	0.1549	-0.0181	0.4827	0.1379	0.3448	-2.2125	
11	12.72	-0.02	3.1295	-6.4774	-0.0834	0.1767	-0.0166	0.4998	0.1409	0.3489	-2.0648	
12	14.90	-0.02	3.4054	-7.5463	-0.0870	0.1530	-0.0223	0.5005	0.1424	0.3581	-1.9838	
13	17.07	-0.02	4.5243	-8.6778	-0.1049	0.2051	-0.0171	0.5064	0.1440	0.3624	-1.9180	
14	19.29	-0.03	5.2453	-9.4484	-0.1116	0.2072	-0.0192	0.5204	0.1468	0.3726	-1.8660	
15	21.44	-0.04	6.1177	-11.4268	-0.1165	0.2407	-0.0284	0.5350	0.1438	0.3912	-1.8678	
16	23.72	-0.04	7.0347	-13.2756	-0.1320	0.2531	-0.0231	0.5462	0.1351	0.4111	-1.8862	
17	26.09	0.01	0.0742	-0.0038	-0.0300	0.0510	-0.0188	0.4432	0.1175	0.3257	-2.8692	



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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART	ALM	RAI	0-6	Pnt	COMP	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	53	2.66	3.2	45.0	010033	0.0	0	0	0	0	FIXED
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	CA	CAR	CAP	XCP
1	-3.46	0.01	-0.6235	1.1454	-0.0105	-0.0016	-0.0161	0.3907	0.0953	0.2954	-1.9172
2	-2.91	0.0	-0.3535	0.6471	-0.0031	-0.0040	-0.0082	0.3945	0.0951	0.2994	-1.8366
3	-1.80	0.01	-0.1754	0.3042	-0.0104	0.0017	-0.0116	0.3958	0.0969	0.2989	-1.7477
4	0.06	0.01	0.0040	-0.0468	-0.0292	0.0337	-0.0113	0.3943	0.0964	0.3009	-5.2000
5	1.11	0.0	0.1621	-0.3929	-0.0164	0.0146	-0.0147	0.4000	0.0969	0.3031	-2.1578
6	2.13	0.0	0.3665	-0.7214	-0.0142	0.0216	-0.0107	0.4001	0.0969	0.3032	-2.0820
7	4.23	0.0	0.7144	-1.4733	-0.0293	0.0476	-0.0139	0.4036	0.0964	0.3052	-2.0622
8	6.70	-0.01	1.1446	-2.3255	-0.0190	0.0345	-0.0094	0.4150	0.1045	0.3105	-2.0225
9	8.43	-0.01	1.6406	-3.2460	-0.0295	0.0465	-0.0160	0.4238	0.1076	0.3162	-1.9783
10	10.55	-0.01	2.2163	-4.1474	-0.0361	0.0448	-0.0111	0.4271	0.1075	0.3196	-1.8992
11	12.46	-0.01	2.7854	-5.0714	-0.0474	0.0400	-0.0136	0.4378	0.1075	0.3295	-1.8208
12	14.84	-0.01	3.3972	-5.9746	-0.0449	0.1226	-0.0122	0.4448	0.1060	0.3368	-1.7601
13	16.49	-0.02	4.0414	-7.0124	-0.0435	0.1565	-0.0109	0.5733	0.1060	0.4673	-1.7351
14	19.23	-0.02	4.7169	-8.1566	-0.0476	0.1515	-0.0132	0.4740	0.1045	0.3695	-1.7292
15	21.70	-0.03	5.4115	-9.4115	-0.0406	0.1662	-0.0119	0.4903	0.1015	0.3868	-1.7392
16	23.54	-0.04	6.2556	-11.0330	-0.0924	0.1494	-0.0141	0.5113	0.0953	0.4160	-1.7637
17	0.04	0.01	0.0144	-0.0533	-0.0193	0.0137	-0.0113	0.4009	0.0964	0.3025	-2.7454

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	NAME	SCALE	PMI	COMP	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	54	2.00	3.2	0.0	41WOF33	0.0	0	0	0	0	FIXED
POINT	ALPHA	HETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	XCP
1	-3.71	0.01	-0.6355	1.2704	-0.0476	0.0984	-0.0125	0.3946	0.0984	0.2982	-1.9991
2	-7.10	0.01	-0.3444	0.7161	-0.0615	0.1144	-0.0091	0.3946	0.0969	0.2997	-2.0649
3	-1.13	0.01	-0.1517	0.3423	-0.0503	0.1179	-0.0078	0.3976	0.0969	0.3007	-2.1039
4	-0.07	0.01	-0.0035	0.0233	-0.0737	0.1436	-0.0075	0.4006	0.0944	0.3022	-6.5714
5	3.96	0.01	0.1746	-0.3177	-0.0662	0.1346	-0.0071	0.4014	0.0984	0.3030	-1.8198
6	1.96	0.01	0.3256	-0.6235	-0.0507	0.1257	-0.0068	0.4019	0.0984	0.3035	-1.9138
7	4.49	0.01	0.7100	-1.3840	-0.0714	0.1532	-0.0061	0.4077	0.0999	0.3073	-1.9493
8	4.16	0.01	1.1201	-2.1785	-0.0706	0.1435	-0.0052	0.4144	0.1045	0.3143	-1.9450
9	4.30	0.01	1.8021	-3.6450	-0.0701	0.1847	-0.0074	0.4292	0.1106	0.3166	-1.9260
10	10.39	0.02	2.1745	-4.0034	-0.1034	0.2746	-0.0065	0.4336	0.1136	0.3200	-1.8735
11	12.53	0.02	2.7548	-4.9604	-0.1040	0.2304	-0.0051	0.4368	0.1106	0.3242	-1.8028
12	14.70	0.02	3.3644	-5.8755	-0.1151	0.2557	-0.0035	0.4434	0.1091	0.3347	-1.7544
13	16.87	0.02	4.0001	-6.9129	-0.1306	0.2790	0.0019	0.4529	0.1060	0.3469	-1.7247
14	19.06	0.02	4.8436	-8.0143	-0.1205	0.2579	0.0111	0.4655	0.1030	0.3625	-1.7122
15	21.14	0.03	5.3714	-9.2110	-0.1317	0.2844	0.0126	0.4794	0.0999	0.3799	-1.7148
16	23.44	0.03	6.1732	-10.7552	-0.1323	0.2885	0.0147	0.4965	0.0923	0.4062	-1.7422
17	-0.06	0.01	-0.0035	0.0233	-0.0737	0.1437	-0.0037	0.3994	0.0984	0.3010	-6.5714

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART 4ACH BX10-6											
3 55 3.95 3.0 45.0 01.0F33 0.0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	CA	CAB	CAF	XCP
1	-3.42	0.01	-0.4414	0.6250	-0.0191	0.0146	0.0042	0.3115	0.0637	0.2478	-1.3534
2	-1.49	0.01	-0.2347	0.2467	-0.0307	0.0242	0.0047	0.3113	0.0616	0.2497	-1.2641
3	-0.40	0.0	-0.1349	0.1000	-0.0225	0.0276	-0.0003	0.3125	0.0616	0.2509	-0.9423
4	0.19	0.0	0.0453	-0.1094	-0.0161	0.0142	0.0001	0.3129	0.0616	0.2513	-2.4243
5	1.21	0.0	0.1644	-0.3144	-0.0235	0.0346	0.0057	0.3141	0.0616	0.2525	-1.7101
6	2.22	0.0	0.3275	-0.5264	-0.0292	0.0347	0.0007	0.3170	0.0616	0.2554	-1.6089
7	4.29	0.0	0.4215	-0.4770	-0.0290	0.0354	0.0014	0.3234	0.0638	0.2594	-1.5730
8	6.34	0.0	0.0493	-1.5251	-0.0333	0.0528	0.0021	0.3306	0.0638	0.2644	-1.5734
9	8.43	0.0	1.3641	-2.1233	-0.0305	0.0435	-0.0023	0.3389	0.0659	0.2730	-1.5543
10	10.46	0.0	1.7942	-2.7264	-0.0455	0.0725	-0.0013	0.3514	0.0659	0.2855	-1.5107
11	12.50	0.0	2.2535	-3.3584	-0.0552	0.0919	-0.0054	0.3431	0.0638	0.2993	-1.4903
12	14.65	0.0	2.7446	-4.1273	-0.0706	0.1085	-0.0043	0.3412	0.0616	0.3106	-1.4902
13	16.76	0.0	3.3371	-5.0350	-0.0406	0.1336	-0.0031	0.4041	0.0595	0.3446	-1.5088
14	19.34	-0.01	3.9416	-6.0434	-0.0491	0.1247	-0.0072	0.4254	0.0574	0.3440	-1.5334
15	20.93	-0.01	4.5410	-7.1710	-0.0495	0.1572	-0.0059	0.4467	0.0531	0.3456	-1.5654
16	23.10	-0.01	5.3044	-8.4334	-0.1124	0.1650	-0.0098	0.4731	0.0489	0.4242	-1.5897
17	0.19	0.01	0.0603	-0.1372	-0.0300	0.0274	0.0001	0.3114	0.0595	0.2519	-2.2756

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME 4X10-6											
3 56 3.95 3.0 0.0 01.0F33 0.0 0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAN	CAF	KCP
1	-3.61	0.0	-0.4764	0.0066	-0.0231	0.0560	-0.0012	0.3080	0.0616	0.2464	-1.4411
2	-2.36	0.0	-0.2442	0.3415	-0.0312	0.0407	-0.0006	0.3047	0.0616	0.2471	-1.4171
3	-1.04	0.0	-0.1354	0.1462	-0.0164	0.0443	-0.0003	0.3044	0.0616	0.2448	-1.4434
4	0.01	0.0	0.0144	-0.0235	-0.0431	0.0464	0.0001	0.3049	0.0615	0.2474	-1.5745
5	1.00	0.0	0.1477	-0.2181	-0.0342	0.0417	0.0004	0.3102	0.0616	0.2486	-1.4765
6	2.01	0.0	0.2407	-0.4248	-0.0347	0.0463	0.0007	0.3133	0.0616	0.2517	-1.5133
7	4.09	0.0	0.4006	-0.5462	-0.0280	0.0449	0.0015	0.3143	0.0634	0.2555	-1.4917
8	6.16	0.0	0.9414	-1.4107	-0.0367	0.1049	-0.0029	0.3242	0.0638	0.2624	-1.5070
9	8.24	0.0	1.3454	-2.7347	-0.0435	0.1139	-0.0019	0.3377	0.0659	0.2718	-1.5154
10	10.24	0.01	1.7471	-2.6350	-0.0715	0.1444	-0.0008	0.3510	0.0659	0.2851	-1.4912
11	12.36	0.01	2.2245	-3.2831	-0.0767	0.1660	0.0004	0.3655	0.0659	0.2999	-1.4726
12	14.47	0.01	2.7142	-3.9923	-0.0776	0.1735	0.0008	0.3825	0.0638	0.3167	-1.4709
13	15.57	0.01	3.2742	-4.4844	-0.0434	0.1951	0.0002	0.4012	0.0616	0.3396	-1.4911
14	19.74	0.01	3.4444	-5.9420	-0.0402	0.1744	0.0044	0.4226	0.0595	0.3631	-1.5240
15	20.75	0.01	4.5244	-7.0542	-0.0754	0.1744	0.0111	0.4444	0.0552	0.3892	-1.5616
16	22.93	0.01	5.2756	-8.4453	-0.0723	0.1732	0.0233	0.4700	0.0510	0.4190	-1.6000
17	-0.02	0.0	0.0142	-0.0255	-0.0434	0.0826	0.0001	0.3100	0.0495	0.2505	-1.5720

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SHEET 1 OF 1

LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	NAME	RAIO	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	57	4.63	3.0	0.0	W10F33	0.0	0	0	0	0	FIXED
POINT	ALPHA	9ETA	CN	CLN	CV	CLN	CLL	CA	CAP	CAF	ACP
1	-3.25	0.0	-0.4107	0.4774	0.0087	0.0743	-0.0012	0.2887	0.0447	0.2440	-1.1636
2	-1.69	0.0	-0.1434	0.2262	-0.0328	0.0771	-0.0006	0.2464	0.0447	0.2421	-1.1673
3	-0.72	0.0	-0.0735	0.0849	-0.0420	0.0888	-0.0002	0.2886	0.0447	0.2439	-1.1551
4	0.34	0.0	0.0400	-0.0363	-0.0515	0.1010	0.0001	0.2862	0.0447	0.2415	-1.2034
5	1.38	0.0	0.1409	-0.2259	-0.0487	0.0976	0.0005	0.2890	0.0447	0.2443	-1.1831
6	2.35	0.0	0.3108	-0.3840	-0.0462	0.0946	0.0008	0.2893	0.0447	0.2446	-1.1712
7	4.42	0.0	0.5446	-0.7190	-0.0131	0.0530	0.0016	0.2937	0.0447	0.2490	-1.1992
8	6.44	0.0	0.9541	-1.2258	-0.0044	0.0409	-0.0042	0.3018	0.0447	0.2571	-1.2796
9	8.55	0.0	1.3038	-1.6906	-0.0153	0.0752	-0.0033	0.3142	0.0447	0.2695	-1.2967
10	10.57	0.0	1.6745	-2.2031	-0.0523	0.1226	-0.0023	0.3277	0.0474	0.2803	-1.3157
11	12.61	0.0	2.0940	-2.6292	-0.0589	0.1320	-0.0013	0.3416	0.0474	0.2942	-1.3485
12	14.69	0.0	2.4766	-3.0136	-0.0532	0.1250	-0.0001	0.3578	0.0474	0.3104	-1.4025
13	16.76	0.0	3.1035	-4.5522	-0.0661	0.1464	0.0010	0.3764	0.0447	0.3317	-1.4764
14	18.42	0.01	3.7110	-6.7503	-0.1014	0.1912	0.0023	0.3990	0.0470	0.3570	-1.5492
15	20.84	0.01	4.3341	-7.0073	-0.0603	0.1470	0.0103	0.4240	0.0392	0.3868	-1.6149
16	23.06	0.01	5.0628	-8.4810	-0.0824	0.1849	-0.0016	0.4509	0.0365	0.4144	-1.6752
17	0.32	0.0	0.0453	-0.0556	-0.0245	0.0664	0.0001	0.2889	0.0420	0.2469	-1.2013

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LANGLEY RESEARCH CENTER (ASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST POINT WALK PX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION			
3			59	4.63	3.0	45.0	81-0433	0.0	0	0	0	0	FIXED
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	CA	CAR	CAF	XCP		
1	-2.99	0.0	-0.3495	0.4018	-0.0152	-0.0026	-0.0010	0.2908	0.0447	0.2441	-1.0874		
2	-1.44	0.0	-0.1671	0.1644	-0.0072	-0.0143	-0.0035	0.2903	0.0446	0.2457	-0.9865		
3	-0.47	0.0	-0.0556	0.0333	-0.0135	-0.0014	-0.0002	0.2910	0.0446	0.2464	-0.5979		
4	0.59	0.0	0.0724	-0.1090	-0.0113	-0.0210	-0.0046	0.2914	0.0446	0.2468	-1.5050		
5	1.92	0.0	0.2032	-0.2856	-0.0265	0.0196	0.0005	0.2922	0.0446	0.2474	-1.3070		
6	2.60	0.0	0.3336	-0.4144	-0.0151	0.0135	-0.0059	0.2942	0.0446	0.2496	-1.2669		
7	4.68	0.0	0.6250	-0.7469	-0.0289	0.0255	-0.0052	0.2998	0.0446	0.2552	-1.2750		
8	6.71	0.0	0.9483	-1.2472	-0.0240	0.0362	-0.0044	0.3053	0.0473	0.2580	-1.3397		
9	8.78	0.0	1.3201	-1.7670	-0.0256	0.0353	-0.0104	0.3158	0.0473	0.2685	-1.3592		
10	10.92	0.0	1.7062	-2.3086	-0.0271	0.0358	-0.0094	0.3270	0.0473	0.2797	-1.3529		
11	12.96	0.0	2.1242	-2.9306	-0.0489	0.0775	-0.0085	0.3408	0.0473	0.2935	-1.3764		
12	14.94	0.0	2.6011	-3.7192	-0.0624	0.0942	-0.0075	0.3598	0.0474	0.3124	-1.4299		
13	17.01	-0.01	3.1275	-4.6127	-0.0529	0.0717	-0.0065	0.3794	0.0446	0.3348	-1.4746		
14	19.11	-0.01	3.7936	-5.4786	-0.0813	0.1246	-0.0054	0.3982	0.0419	0.3563	-1.5144		
15	21.12	-0.01	4.2515	-6.5974	-0.0821	0.1442	-0.0043	0.4225	0.0392	0.3833	-1.5481		
16	23.27	-0.01	4.9143	-7.7675	-0.0672	0.1358	-0.0097	0.4450	0.0337	0.4113	-1.5806		
17	25.58	0.0	0.0728	-0.1092	-0.0017	-0.0206	0.0001	0.2930	0.0392	0.2538	-1.5003		

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

NAUTIN MISSILE TAIL EFFECTS DATA

TEST	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND
3	59	2.36	3.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3	59	2.36	3.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAR	CAF	ACP	
1	-3.57	0.01	-0.7292	1.7546	-0.0139	-0.6400	-0.0248	0.4226	0.1241	0.2945	-2.4062	
2	-1.64	0.01	-0.4215	1.0240	-0.0241	-0.6130	-0.0268	0.4178	0.1226	0.2952	-2.4294	
3	-0.99	0.01	-0.2104	0.5360	-0.0271	-0.6023	-0.0221	0.4174	0.1212	0.2957	-2.4804	
4	0.10	0.01	0.0010	0.0412	-0.0303	0.6116	-0.0207	0.4156	0.1212	0.2944	41.2000	
5	1.13	0.01	0.1933	-0.4277	-0.0328	0.6746	-0.0210	0.4141	0.1213	0.2948	-2.2138	
6	2.15	0.01	0.3450	-0.4734	-0.0230	0.6130	-0.0213	0.4140	0.1227	0.2953	-2.2451	
7	4.27	0.01	0.4212	-1.9019	-0.0403	0.6552	-0.0208	0.4277	0.1283	0.2994	-2.3160	
8	6.36	0.01	1.2924	-2.4292	-0.0355	0.6013	-0.0254	0.4455	0.1396	0.3059	-2.2664	
9	6.50	0.01	1.7431	-3.4334	-0.0330	0.6520	-0.0280	0.4593	0.1490	0.3103	-2.1939	
10	10.41	0.01	2.3896	-5.0044	-0.0403	0.6468	-0.0300	0.4705	0.1521	0.3184	-2.0941	
11	12.77	0.01	3.0171	-5.4627	-0.0448	0.6546	-0.0353	0.4706	0.1476	0.3228	-1.9764	
12	14.98	0.02	3.7077	-6.4414	-0.0651	0.6493	-0.0300	0.4663	0.1449	0.3214	-1.8723	
13	17.10	0.02	4.4064	-7.4822	-0.0524	0.6329	-0.0281	0.4687	0.1408	0.3279	-1.8115	
14	19.45	0.02	5.1307	-9.0184	-0.0524	0.6245	-0.0197	0.4648	0.1351	0.3347	-1.7573	
15	21.59	0.03	5.7401	-10.4062	-0.0713	0.6526	-0.0173	0.4756	0.1295	0.3461	-1.7240	
16	23.85	0.03	6.4546	-11.4264	-0.0735	0.6673	-0.0221	0.4824	0.1254	0.3570	-1.7150	
17	0.09	0.01	0.0020	0.0321	-0.0302	0.6022	-0.0208	0.4155	0.1210	0.2945	16.6500	

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	WACH	RAIL	W	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	69	2.36	3.0		45.0	81.0 F34	0.0	0	0	0	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAR	CAF	ICP	
1	-3.56	0.02	-0.7344	1.7705	-0.0097	-0.0472	-0.0356	0.4249	0.1239	0.3010	-2.4830	
2	-2.01	0.01	-0.4280	1.0475	-0.0172	-0.0344	-0.0318	0.4212	0.1224	0.2988	-2.4589	
3	-0.90	0.01	-0.2224	0.5644	-0.0191	-0.0342	-0.0344	0.4190	0.1225	0.2945	-2.5556	
4	0.10	0.01	0.0603	0.0653	-0.0224	-0.0277	-0.0382	0.4170	0.1210	0.2960	219.2664	
5	1.15	0.01	0.1413	-0.3845	-0.0314	0.0105	-0.0269	0.4165	0.1210	0.2955	-2.0100	
6	2.15	0.0	0.3720	-0.8144	-0.0281	0.0164	-0.0330	0.4150	0.1197	0.2953	-2.1900	
7	4.25	0.0	0.7955	-1.0711	-0.0152	-0.0145	-0.0312	0.4228	0.1268	0.2960	-2.2455	
8	6.33	-0.01	1.2752	-2.9010	-0.0237	0.0124	-0.0331	0.4349	0.1352	0.2947	-2.2702	
9	4.48	-0.01	1.7925	-3.9667	-0.0309	0.0228	-0.0405	0.4427	0.1423	0.3004	-2.2129	
10	10.59	-0.02	2.3414	-5.6144	-0.0437	0.0578	-0.0405	0.4446	0.1423	0.3023	-2.0904	
11	12.75	-0.01	3.0150	-5.7930	-0.0701	0.0962	-0.0434	0.4501	0.1451	0.3050	-1.9540	
12	14.94	-0.02	3.6713	-6.0174	-0.0734	0.0957	-0.0456	0.4605	0.1489	0.3116	-1.8571	
13	17.13	-0.02	4.3517	-7.7405	-0.0978	0.1266	-0.0438	0.4603	0.1452	0.3151	-1.7800	
14	19.34	-0.03	5.0424	-8.8444	-0.0783	0.0418	-0.0576	0.4678	0.1479	0.3199	-1.7410	
15	21.55	-0.03	5.7454	-10.1270	-0.0956	0.1007	-0.0510	0.4742	0.1465	0.3277	-1.7261	
16	23.78	-0.03	6.7144	-11.6504	-0.1160	0.1460	-0.0527	0.4804	0.1440	0.3404	-1.7340	
17	0.06	0.01	-0.0044	0.0027	-0.0316	-0.0102	-0.0382	0.4169	0.1211	0.2458	-9.8405	



TEST PART -ALM HX10-6				PHI CONF		L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
3 61 6.00 3.0				45.0 81.0 F 34		0.0	0	0	0	0	FIXED	
POINT	ALPHA	BETA	CN	CL	CY	CLX	CLL	CA	CAR	CAF	KCP	
1	-3.55	0.01	-0.6544	1.3395	0.0036	-0.0743	-0.0247	0.3764	0.1011	0.2773	-2.0329	
2	-7.00	0.01	-0.3572	0.7534	-0.0041	-0.0453	-0.0242	0.3764	0.0979	0.2747	-2.1091	
3	-0.44	0.01	-0.1703	0.3444	-0.0155	-0.0358	-0.0278	0.3764	0.0979	0.2745	-2.2090	
4	0.98	0.01	-0.0147	0.0004	-0.0155	-0.0374	-0.0236	0.3756	0.0995	0.2761	-5.4612	
5	1.13	0.01	0.1443	-0.0764	-0.0222	-0.0231	-0.0226	0.3761	0.0945	0.2766	-1.6014	
6	2.13	0.0	0.3345	-0.0107	-0.0176	-0.0207	-0.0256	0.3768	0.0979	0.2789	-1.8041	
7	4.25	0.0	0.7001	-1.3454	-0.0589	-0.0400	-0.0276	0.3818	0.1011	0.2807	-1.9219	
8	6.31	0.0	1.1154	-2.1343	-0.0154	-0.0146	-0.0254	0.3900	0.1075	0.2825	-1.9159	
9	8.42	-0.01	1.5571	-2.7711	-0.0145	-0.0145	-0.0302	0.3968	0.1107	0.2841	-1.8696	
10	10.53	-0.01	2.1424	-3.0362	-0.0374	0.0141	-0.0304	0.4000	0.1123	0.2877	-1.7892	
11	12.66	-0.01	2.7126	-4.5207	-0.0493	0.0325	-0.0340	0.4064	0.1123	0.2941	-1.7034	
12	14.80	-0.01	3.2407	-5.0254	-0.0427	0.0444	-0.0366	0.4139	0.1091	0.3048	-1.6487	
13	16.95	-0.01	3.9080	-4.5274	-0.0660	0.0746	-0.0342	0.4226	0.1091	0.3135	-1.6142	
14	19.17	-0.01	4.5563	-7.3627	-0.0854	0.0440	-0.0457	0.4332	0.1091	0.3241	-1.6159	
15	21.24	-0.02	5.2475	-7.5258	-0.0444	0.0546	-0.0443	0.4472	0.1075	0.3397	-1.6243	
16	23.46	-0.03	6.0311	-9.4674	-0.0400	0.0431	-0.0504	0.4655	0.1059	0.3596	-1.6530	
17	0.00	0.01	-0.0027	0.0172	-0.0254	-0.0265	-0.0276	0.3770	0.0995	0.2775	-26.8074	

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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME: HX10-0												
3 62 2.60 3.0 0.0 0.10030 0.0 0 0 0 0 0 0												
L LFL1 DEL2 DEL3 DEL4 TRANSITION												
0 0 0 0 0 0 0 0 0 0 0 0 0												
FIXED												
POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAB	CAF	XCP	
1	-3.71	0.01	-0.2542	1.3302	-0.0057	-0.0075	-0.0209	0.3776	0.1011	0.2765	-2.0209	
2	-2.14	0.01	-0.3447	0.7864	-0.0124	-0.0070	-0.0167	0.3766	0.0995	0.2771	-2.0454	
3	-1.14	0.01	-0.2114	0.4454	-0.0064	-0.0021	-0.0133	0.3765	0.0995	0.2770	-2.1067	
4	-0.06	0.01	-0.0244	0.0774	-0.0182	-0.0024	-0.0114	0.3772	0.0995	0.2777	-3.1541	
5	0.46	0.01	0.1440	-0.2634	-0.0244	-0.0144	-0.0121	0.3776	0.0995	0.2741	-1.7671	
6	1.44	0.0	0.3244	-0.4016	-0.0073	-0.0309	-0.0125	0.3780	0.0995	0.2745	-1.6746	
7	4.04	0.01	0.4444	-1.3464	-0.0115	-0.0242	-0.0131	0.3843	0.1027	0.2416	-1.0329	
8	6.15	0.01	1.1124	-2.1174	-0.0311	0.0114	-0.0174	0.3967	0.1091	0.2876	-1.9027	
9	8.24	0.01	1.5514	-2.4502	-0.0204	0.0002	-0.0202	0.4041	0.1134	0.2942	-1.8655	
10	10.34	0.01	2.1442	-3.4442	-0.0283	0.0134	-0.0226	0.4115	0.1155	0.2940	-1.8119	
11	12.45	0.01	2.7274	-4.7263	-0.0461	0.0363	-0.0252	0.4146	0.1139	0.3007	-1.7329	
12	14.64	0.02	3.3444	-5.5594	-0.0573	0.0448	-0.0237	0.4200	0.1107	0.3093	-1.6815	
13	16.82	0.02	4.0110	-6.4131	-0.0564	0.0244	-0.0222	0.4274	0.1075	0.3199	-1.6448	
14	19.02	0.02	4.5444	-7.4447	-0.0511	0.0234	-0.0244	0.4371	0.1027	0.3344	-1.6306	
15	21.16	0.02	5.2314	-8.4454	-0.0526	0.0040	-0.0224	0.4502	0.0974	0.3523	-1.6219	
16	23.37	0.02	5.4715	-9.7642	-0.0572	0.0051	-0.0130	0.4626	0.0915	0.3713	-1.6351	
17	-0.07	0.01	-0.0102	0.0585	-0.0182	-0.0258	-0.0116	0.3760	0.0995	0.2765	-5.7333	

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LANGLEY RESEARCH CENTER (ASA)

UNITARY PLAN #100 TUNNEL (UPDT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST FACT PLAN 6X10-A											
3 63 3.65 3.0			45.0 01.0F34 0.0			DEL1 DEL2 DEL3 DEL4 TRANSITION			0 0 0 0 0		
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAN	CAF	KCP
1	-3.62	0.01	-0.6953	0.7735	-0.0014	-0.0424	-0.0168	0.2967	0.0642	0.2325	-1.5523
2	-1.45	0.01	-0.2644	0.4201	-0.0141	-0.0265	-0.0163	0.2955	0.0643	0.2312	-1.5798
3	-0.44	0.01	-0.1217	0.2059	-0.0291	0.0422	-0.0160	0.2949	0.0643	0.2306	-1.7017
4	0.14	0.0	0.0057	0.0044	0.0024	-0.0170	-0.0156	0.2942	0.0643	0.2299	0.7343
5	1.22	0.0	0.1440	-0.1929	-0.0294	0.0044	-0.0144	0.2955	0.0643	0.2312	-1.3034
6	2.21	0.0	0.2944	-0.4224	-0.0204	-0.0050	-0.0132	0.2977	0.0643	0.2334	-1.4117
7	4.40	0.0	0.5846	-0.8456	-0.0150	-0.0143	-0.0160	0.3050	0.0644	0.2386	-1.4519
8	6.37	0.0	0.8361	-1.3473	-0.0153	-0.0085	-0.0190	0.3110	0.0644	0.2446	-1.4564
9	8.44	0.0	1.1445	-1.9220	-0.0371	0.0141	-0.0149	0.3142	0.0645	0.2497	-1.4467
10	10.46	0.0	1.7506	-2.4744	-0.0342	0.0144	-0.0259	0.3244	0.0645	0.2603	-1.4135
11	12.55	0.0	2.2155	-3.0815	-0.0463	0.0340	-0.0315	0.3394	0.0645	0.2709	-1.3900
12	14.66	0.0	2.7060	-3.7457	-0.0541	0.0355	-0.0352	0.3577	0.0644	0.2913	-1.4021
13	16.76	-0.01	3.2507	-4.5215	-0.0515	0.0336	-0.0450	0.3774	0.0643	0.3136	-1.4217
14	18.94	-0.01	3.8676	-5.4102	-0.0499	0.0456	-0.0490	0.3984	0.0621	0.3363	-1.4506
15	20.44	-0.01	4.4744	-6.4404	-0.0653	0.0754	-0.0478	0.4190	0.0579	0.3411	-1.4830
16	23.15	-0.01	5.2051	-7.6411	-0.1051	0.1023	-0.0516	0.4407	0.0558	0.3449	-1.5079
17	0.14	0.01	0.0250	-0.0082	-0.0395	0.0064	-0.0156	0.2941	0.0621	0.2320	-0.3288



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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN 4 (NO TUNNEL) (UPMT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART = ALM-RAU-5 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
3 65 4.63 3.0 0.0 01.0F34 0.0 0 0 0 0 FIXED

POINT	ALPHA	META	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.22	0.0	-0.0004	0.0000	0.0004	-0.0434	-0.0163	0.2727	0.0442	0.2245	-1.2359
2	-1.75	0.0	-0.2124	0.0053	0.0000	-0.0403	-0.0111	0.2649	0.0442	0.2217	-1.2489
3	-1.74	0.0	-0.0003	0.0003	0.0019	-0.0376	-0.0009	0.2717	0.0442	0.2235	-1.3019
4	0.34	0.0	0.0513	-0.0321	-0.0000	-0.0301	-0.0065	0.2715	0.0442	0.2233	-0.6261
5	1.34	0.0	0.1435	-0.1941	-0.0021	-0.0105	-0.0073	0.2726	0.0482	0.2244	-1.0289
6	2.35	0.0	0.3130	-0.3370	-0.0039	-0.0120	-0.0081	0.2736	0.0481	0.2255	-1.0765
7	4.43	0.0	0.6257	-0.7230	-0.0070	-0.0076	-0.0095	0.2780	0.0482	0.2298	-1.1555
8	6.47	0.0	0.9341	-1.1356	-0.0070	-0.0056	-0.0175	0.2846	0.0482	0.2374	-1.2148
9	8.54	0.0	1.4103	-1.6310	-0.0000	-0.0022	-0.0232	0.2964	0.0509	0.2460	-1.2394
10	10.58	0.0	1.6453	-2.1242	-0.0130	-0.0154	-0.0222	0.3105	0.0509	0.2596	-1.2538
11	12.63	0.0	2.0908	-2.6741	-0.0135	-0.0137	-0.0278	0.3217	0.0509	0.2708	-1.2764
12	14.70	0.01	2.5510	-3.4041	-0.0361	0.0160	-0.0264	0.3345	0.0481	0.2864	-1.3344
13	16.76	0.01	3.0704	-4.3027	-0.0200	0.0072	-0.0256	0.3534	0.0481	0.3053	-1.3977
14	18.88	0.01	3.6510	-5.3600	-0.0413	0.0254	-0.0243	0.3700	0.0454	0.3266	-1.4690
15	20.90	0.0	4.2537	-6.4400	-0.0253	0.0257	-0.0247	0.3961	0.0427	0.3534	-1.5257
16	23.07	0.01	4.9755	-7.6454	-0.0605	0.0730	-0.0300	0.4200	0.0373	0.3835	-1.5769
17	0.34	0.0	0.0754	-0.0630	-0.0010	-0.0339	-0.0065	0.2737	0.0454	0.2283	-0.8416

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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST PART HALF WALL-B			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
3 6A 4.63 3.0			45.0	01-0F34	0.0	0	0	0	0	FIXED	
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	CA	CAB	CAF	ACP
1	-2.46	0.0	-0.4150	0.5361	0.0066	-0.0541	-0.0211	0.2767	0.0509	0.2258	-1.2795
2	-1.50	0.0	-0.2274	0.3114	-0.0113	-0.0170	-0.0207	0.2744	0.0481	0.2268	-1.3710
3	-0.46	0.0	-0.0777	0.1514	-0.0054	-0.0154	-0.0203	0.2753	0.0441	0.2272	-1.6051
4	0.50	0.0	0.0590	-0.0324	-0.0170	-0.0166	-0.0194	0.2736	0.0441	0.2255	-0.5559
5	1.43	0.0	0.1460	-0.1576	-0.0200	-0.0020	-0.0185	0.2749	0.0441	0.2268	-0.9494
6	2.40	0.0	0.3113	-0.3191	-0.0241	0.0005	-0.0170	0.2757	0.0441	0.2276	-1.0251
7	4.40	0.0	0.6144	-0.4446	-0.0154	-0.0012	-0.0206	0.2808	0.0441	0.2327	-1.1302
8	6.71	0.0	0.9354	-1.1271	-0.0255	0.0115	-0.0179	0.2870	0.0509	0.2361	-1.2043
9	8.77	0.0	1.2714	-1.5770	-0.0132	0.0026	-0.0260	0.2954	0.0509	0.2447	-1.2366
10	10.79	0.0	1.6641	-2.0911	-0.0166	0.0033	-0.0341	0.3054	0.0509	0.2545	-1.2476
11	12.96	-0.01	2.0752	-2.6741	-0.0251	0.0165	-0.0351	0.3166	0.0509	0.2657	-1.2886
12	14.93	0.0	2.5253	-3.3435	-0.0451	0.0274	-0.0409	0.3346	0.0509	0.2837	-1.3383
13	17.02	-0.01	3.0444	-4.2822	-0.0521	0.0447	-0.0465	0.3524	0.0481	0.3043	-1.3974
14	19.10	-0.01	3.5475	-5.2083	-0.0544	0.0519	-0.0455	0.3746	0.0454	0.3292	-1.4476
15	21.13	-0.01	4.1444	-6.1685	-0.0662	0.0647	-0.0444	0.3943	0.0427	0.3516	-1.4812
16	23.24	-0.01	4.8334	-7.3294	-0.0786	0.0745	-0.0448	0.4174	0.0373	0.3801	-1.5164
17	0.60	0.0	0.0590	-0.0324	-0.0170	-0.0165	-0.0199	0.2734	0.0427	0.2307	-0.5559

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LANGLEY RESEARCH CENTER (LARC)

UNITARY PLAN WIND TUNNEL (UPWT)

HANTIA MISSILE TAIL EFFECTS DATA

TEST	CONF	CLM	CLN	CLP	CLQ	CLR	CLS	CLT	CLU	CLV	CLW	TRANSITION
3	67	2.30	3.0	0.0	0.1	1.34	15.420	0	0	0	0	FIXED
POINT	ALPHA	HFA	CLN	CLM	CLP	CLQ	CLR	CLS	CLT	CLU	CLV	RCP
1	-3.83	0.01	-1.1727	1.6645	-0.0005	-0.0422	-0.0377	0.4764	0.1270	0.3494	-1.4236	
2	-2.14	0.01	-0.6710	0.9540	-0.0139	-0.0444	-0.0399	0.4715	0.1224	0.3487	-1.4218	
3	-1.12	0.01	-0.3455	0.5321	-0.0025	-0.0444	-0.0320	0.4684	0.1229	0.3459	-1.5356	
4	0.01	0.01	-0.0212	0.1014	-0.0144	-0.0453	-0.0312	0.4672	0.1227	0.3445	-4.7821	
5	1.10	0.02	0.2842	-0.2852	-0.0351	-0.0145	-0.0303	0.4676	0.1229	0.3447	-0.9895	
6	2.17	0.01	0.5943	-0.7213	-0.0212	-0.0354	-0.0331	0.4701	0.1241	0.3460	-1.2032	
7	4.34	0.01	1.2045	-1.4633	-0.0205	-0.0352	-0.0279	0.4707	0.1284	0.3503	-1.3354	
8	6.50	0.02	1.9735	-2.7673	-0.0447	-0.0030	-0.0261	0.4955	0.1397	0.3558	-1.4022	
9	8.77	0.02	2.7113	-4.4050	-0.0397	0.0016	-0.0243	0.5087	0.1482	0.3605	-1.4403	
10	10.94	0.02	3.4707	-5.1020	-0.0475	0.0134	-0.0259	0.5246	0.1552	0.3694	-1.4676	
11	13.18	0.02	4.3121	-6.3642	-0.0567	0.0353	-0.0273	0.5320	0.1495	0.3725	-1.4768	
12	15.42	0.03	5.1910	-7.5432	-0.0739	0.0409	-0.0216	0.5335	0.1580	0.3755	-1.4607	
13	17.71	0.02	6.0511	-8.7395	-0.0512	-0.0236	-0.0150	0.5312	0.1454	0.3658	-1.4443	
14	19.94	0.02	6.9227	-9.8461	-0.0454	-0.0572	-0.0135	0.5387	0.1384	0.4003	-1.4226	
15	22.20	0.03	7.8543	-11.0216	-0.0540	-0.0300	0.0024	0.5496	0.1340	0.4158	-1.4271	
16	24.44	0.03	8.8510	-12.1411	-0.0657	-0.0147	-0.0051	0.5553	0.1284	0.4249	-1.4396	
17	0.01	0.01	-0.0205	0.1003	-0.0180	-0.0567	-0.0301	0.4668	0.1229	0.3439	-4.8927	

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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST FACT -ALM AXION=			PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
3. 6R 2.36 3.0			45.0	01.1F34	15.420	0	0	0	0	FIXED	
POINT	ALPHA	AFYA	CN	CLM	CY	CLM	CLL	CA	CAH	CAF	XCP
1	-3.41	0.02	-1.1550	1.0200	-0.0100	-0.0715	-0.0305	0.4826	0.1268	0.3558	-1.4024
2	-2.22	0.02	-0.6452	1.0017	-0.0242	-0.0479	-0.0343	0.4755	0.1239	0.3516	-1.4555
3	-1.12	0.02	-0.3010	0.9750	-0.0152	-0.0451	-0.0321	0.4705	0.1223	0.3482	-1.5923
4	0.01	0.02	-0.0509	0.1819	-0.0184	-0.0605	-0.0313	0.4676	0.1226	0.3450	-3.5729
5	1.09	0.02	0.2805	-0.2170	-0.0255	-0.0466	-0.0305	0.4692	0.1238	0.3454	-0.8363
6	2.18	0.02	0.5800	-0.6302	-0.0435	-0.0203	-0.0298	0.4723	0.1239	0.3484	-1.0950
7	4.48	0.01	1.2625	-1.5805	-0.0530	0.0050	-0.0352	0.4436	0.1295	0.3541	-1.2519
8	4.64	0.0	1.8450	-2.4733	-0.0509	0.0155	-0.0372	0.4925	0.1351	0.3574	-1.3052
9	4.76	0.01	2.5935	-3.4322	-0.0725	0.0456	-0.0426	0.5005	0.1394	0.3611	-1.3232
10	10.90	0.0	3.2611	-4.2651	-0.0770	0.0809	-0.0480	0.5073	0.1450	0.3623	-1.3140
11	13.10	0.0	3.9471	-5.2314	-0.0984	0.0906	-0.0497	0.5117	0.1479	0.3638	-1.3122
12	15.35	0.0	4.7355	-6.1501	-0.1133	0.1150	-0.0514	0.5124	0.1450	0.3674	-1.2987
13	17.58	-0.01	5.4773	-6.4737	-0.1617	0.1083	-0.0600	0.5094	0.1393	0.3701	-1.2732
14	19.85	-0.01	6.2712	-7.4304	-0.1839	0.1122	-0.0615	0.5177	0.1394	0.3783	-1.2486
15	22.05	-0.01	7.1103	-8.4794	-0.1272	0.1443	-0.0700	0.5301	0.1464	0.3837	-1.2375
16	24.43	-0.02	8.1142	-10.0946	-0.1499	0.2044	-0.0607	0.5364	0.1479	0.3885	-1.2433
17	0.01	0.02	-0.0314	0.1635	-0.0188	-0.0647	-0.0347	0.4712	0.1239	0.3473	-5.2057



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LANGLEY RESEARCH CENTER (ASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME: 3 69 2.66 3.0											
PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
45.0 01-1F36 15.420 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CV	CLM	CV	CLM	CLL	CA	CAB	CAF	KCP
1	-3.75	0.01	-0.9950	1.2616	0.0025	-0.0870	-0.0222	0.4319	0.1044	0.3275	-1.2679
2	-2.22	0.01	-0.5167	0.7717	0.0040	-0.0442	-0.0212	0.4241	0.1012	0.3279	-1.2557
3	-1.11	0.01	-0.3144	0.4203	-0.0022	-0.0745	-0.0244	0.4254	0.1012	0.3247	-1.3352
4	-0.01	0.01	-0.0347	0.1217	0.0041	-0.0911	-0.0147	0.4216	0.1012	0.3204	-3.5066
5	1.07	0.01	0.2124	-0.1502	0.0037	-0.0724	-0.0230	0.4235	0.1012	0.3223	-0.7053
6	2.12	0.01	0.4133	-0.4694	-0.0210	-0.0440	-0.0263	0.4292	0.1011	0.3281	-0.9721
7	4.24	0.01	1.0371	-1.1624	-0.0304	-0.0313	-0.0249	0.4371	0.1028	0.3343	-1.1401
8	6.41	0.0	1.6271	-1.9465	-0.0204	-0.0361	-0.0275	0.4436	0.1044	0.3392	-1.2271
9	8.54	0.0	2.2470	-2.4567	-0.0342	-0.0254	-0.0340	0.4444	0.1076	0.3412	-1.2702
10	10.72	0.0	2.9542	-3.4822	-0.0443	0.0130	-0.0364	0.4564	0.1108	0.3456	-1.2767
11	12.88	0.0	3.5335	-4.4845	-0.0706	0.0463	-0.0388	0.4613	0.1076	0.3537	-1.2691
12	15.07	0.0	4.2167	-5.3249	-0.0825	0.0652	-0.0450	0.4675	0.1060	0.3615	-1.2628
13	17.25	-0.01	4.9157	-6.0970	-0.0453	0.0646	-0.0472	0.4780	0.1044	0.3736	-1.2403
14	19.44	-0.01	5.6723	-6.9465	-0.0694	0.0475	-0.0492	0.4495	0.1060	0.3835	-1.2282
15	21.63	-0.01	6.4473	-7.4419	-0.1054	0.0477	-0.0553	0.5030	0.1076	0.3954	-1.2241
16	23.94	-0.01	7.3240	-8.4700	-0.1023	0.0365	-0.0651	0.5205	0.1075	0.4130	-1.2239
17	0.0	0.01	-0.0444	0.1340	-0.0019	-0.0781	-0.0147	0.4240	0.1028	0.3212	-3.0094

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN BOND TUNNEL (UPBT)

MANTIC MISSILE TAIL EFFECTS DATA

TEST	MANT	MANT	MANT	MANT	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	70	2.66	3.0	0.0	0.1-1F34	15.420	0	0	0	0	FIXED
POINT	ALPHA	META	CN	CLM	CY	CLN	CLL	CA	CAR	CAF	RCP
1	-3.92	0.0	-1.0264	1.3176	0.0084	-0.0344	-0.0264	0.4255	0.1031	0.3224	-1.2830
2	-2.32	0.01	-0.6613	0.7551	-0.0049	-0.0704	-0.0252	0.4260	0.1031	0.3229	-1.2558
3	-2.32	0.01	-0.6615	1.7554	-0.0049	-0.0704	-0.0252	0.4261	0.1031	0.3230	-1.2559
4	-1.27	0.01	-0.3324	0.4233	-0.0124	-0.0473	-0.0245	0.4244	0.1031	0.3227	-1.2733
5	-0.16	0.01	-0.0507	0.1101	-0.0174	-0.0406	-0.0237	0.4232	0.1031	0.3201	-2.1900
6	0.92	0.02	0.2155	-0.1614	-0.0384	-0.0337	-0.0266	0.4250	0.1031	0.3219	-0.8436
7	1.97	0.01	0.4414	-0.5007	-0.0266	-0.0457	-0.0222	0.4267	0.1031	0.3256	-1.0400
8	4.16	0.02	1.0244	-1.2302	-0.0457	-0.0131	-0.0207	0.4334	0.1247	0.3292	-1.1958
9	6.27	0.02	1.6341	-2.1011	-0.0480	0.0014	-0.0192	0.4440	0.1111	0.3329	-1.2613
10	4.45	0.02	2.2541	-2.4622	-0.0475	0.0024	-0.0216	0.4554	0.1159	0.3395	-1.3142
11	10.57	0.02	2.4454	-3.4660	-0.0474	0.0038	-0.0196	0.4666	0.1191	0.3475	-1.3462
12	12.77	0.02	3.4715	-5.6237	-0.0633	0.0149	-0.0180	0.4703	0.1191	0.3512	-1.3683
13	14.44	0.02	4.4446	-6.0037	-0.0683	0.0223	-0.0121	0.4811	0.1143	0.3668	-1.3630
14	17.14	0.02	5.1743	-7.0550	-0.0652	0.0144	-0.0141	0.4947	0.1111	0.3836	-1.3622
15	14.44	0.03	4.4745	-6.1583	-0.0754	0.0242	-0.0061	0.5077	0.1079	0.3948	-1.3643
16	21.55	0.03	4.2146	-9.4142	-0.0655	-0.0142	-0.0060	0.5206	0.1031	0.4175	-1.3813
17	23.43	0.03	7.7477	-10.8052	-0.0721	-0.0140	-0.0076	0.5344	0.0951	0.4393	-1.3946
18	-0.16	0.01	-0.0606	0.1204	-0.0335	-0.0404	-0.0237	0.4222	0.1031	0.3191	-2.0000

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME: MAJ0-6  
3 71 3.55 3.0 45.0 MI-1F3- 15.470 0 0 0 0 0  
FIXED

POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	ACP
1	-3.53	0.0	-0.6375	0.7725	0.0044	-0.0606	-0.0070	0.3358	0.0683	0.2675	-1.1231
2	-2.01	0.0	-0.6055	0.6674	0.0244	-0.0740	-0.0062	0.3347	0.0683	0.2666	-1.1414
3	-0.96	0.0	-0.5735	0.5517	0.0227	-0.0645	-0.0109	0.3294	0.0683	0.2616	-1.2202
4	0.13	0.0	0.3000	0.0224	0.0247	-0.0740	-0.0103	0.3256	0.0683	0.2573	3.3500
5	1.15	0.0	0.2045	-0.1430	0.0181	-0.0468	-0.0094	0.3329	0.0683	0.2646	-0.8724
6	2.15	0.0	0.4247	-0.4247	-0.0063	-0.0397	-0.0093	0.3390	0.0683	0.2707	-0.9953
7	4.25	0.0	0.4414	-0.4761	-0.0205	-0.0103	-0.0134	0.3450	0.0643	0.2767	-1.0429
8	6.35	0.0	1.2871	-1.3661	-0.0044	-0.0340	-0.0122	0.3527	0.0683	0.2844	-1.0631
9	7.47	0.0	1.7524	-1.4107	-0.0134	-0.0145	-0.0163	0.3609	0.0683	0.2926	-1.0916
10	10.53	-0.01	2.3113	-2.0324	-0.0154	-0.0071	-0.0207	0.3725	0.0704	0.3021	-1.1391
11	12.63	-0.01	2.4407	-3.3914	-0.0257	-0.0010	-0.0241	0.3915	0.0704	0.3211	-1.1748
12	14.74	-0.01	3.5253	-4.1514	-0.0423	0.0164	-0.0278	0.4145	0.0683	0.3462	-1.1777
13	16.91	0.0	4.1566	-4.4641	-0.0434	0.0409	-0.0307	0.4342	0.0683	0.3659	-1.1798
14	19.04	-0.01	4.6614	-5.7564	-0.0645	0.0442	-0.0454	0.4574	0.0652	0.3912	-1.1841
15	21.18	-0.01	4.4405	-4.7522	-0.0715	0.0324	-0.0542	0.4845	0.0640	0.4215	-1.1903
16	23.34	-0.01	4.4030	-7.5194	-0.0859	0.0022	-0.0676	0.5108	0.0619	0.4489	-1.1742
17	0.12	0.0	0.0232	0.0118	0.0159	-0.0561	-0.0103	0.3227	0.0662	0.2545	0.5095

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LANGLEY RESEARCH CENTER (LARC)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST NAME: NALM NALD-A											
72 3.95 3.0											
PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.141F34 15.420 0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLN	CV	CLN	CLL	CA	CAB	CAF	ACP
1	-3.73	0.0	-0.7122	0.0022	0.0096	-0.0541	-0.0125	0.3260	0.0687	0.2573	-1.1263
2	-2.21	0.0	-0.4117	0.0471	0.0246	-0.0732	-0.0064	0.3254	0.0687	0.2572	-1.1442
3	-1.19	0.0	-0.2045	0.0242	-0.0101	-0.0416	-0.0110	0.3257	0.0688	0.2569	-1.2186
4	-0.06	0.0	0.0013	0.0243	0.0169	-0.0429	-0.0104	0.3207	0.0688	0.2519	22.5231
5	0.96	0.0	0.2047	-0.1877	-0.0083	-0.0308	-0.0098	0.3275	0.0688	0.2587	-0.9169
6	1.96	0.0	0.4054	-0.4017	0.0094	-0.0391	-0.0145	0.3315	0.0688	0.2627	-0.9896
7	4.58	0.0	0.8134	-0.8463	0.0017	-0.0427	-0.0133	0.3354	0.0688	0.2676	-1.0429
8	6.16	0.0	1.2567	-1.7647	-0.0043	-0.0207	-0.0121	0.3469	0.0709	0.2760	-1.0858
9	8.27	0.0	1.7391	-1.9344	-0.0101	-0.0176	-0.0160	0.3566	0.0709	0.2859	-1.1155
10	10.34	0.01	2.2745	-2.4909	-0.0167	-0.0172	-0.0147	0.3690	0.0709	0.2981	-1.1366
11	12.46	0.01	2.8113	-3.2280	-0.0240	-0.0074	-0.0183	0.3899	0.0709	0.3140	-1.1457
12	14.56	0.01	3.4147	-3.9665	-0.0504	0.0276	-0.0210	0.4123	0.0688	0.3435	-1.1622
13	16.73	0.01	4.0645	-4.8310	-0.0345	-0.0062	-0.0150	0.4350	0.0667	0.3683	-1.1873
14	18.87	0.01	4.7547	-5.7644	-0.0354	0.0104	-0.0185	0.4544	0.0624	0.3924	-1.2135
15	20.97	0.01	5.5137	-6.8675	-0.0343	-0.0035	-0.0166	0.4774	0.0581	0.4193	-1.2492
16	23.14	0.01	6.4064	-8.2984	-0.0276	-0.0242	-0.0092	0.5011	0.0539	0.4472	-1.2952
17	-0.11	0.0	0.0016	0.0286	-0.0042	-0.0361	-0.0104	0.3214	0.0667	0.2547	15.8776

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME RAJ0-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
3 77 4.63 3.0 0.0 01.1F34 13.420 0 0 0 0 FIXED

POINT	ALPHA	BETA	C <sub>x</sub>	CLM	C <sub>y</sub>	CLN	CLL	CA	CAN	CAF	XCP
1	-3.35	0.0	-0.5705	0.5480	0.0149	-0.0565	-0.0152	0.2998	0.0538	0.2468	-0.9686
2	-1.43	0.0	-0.3973	0.2971	0.0100	-0.0477	-0.0144	0.2976	0.0538	0.2438	-0.9669
3	-0.79	0.0	-0.1163	0.1247	0.0045	-0.0347	-0.0139	0.2956	0.0538	0.2418	-1.0724
4	0.27	0.0	0.0749	-0.0477	-0.0012	-0.0134	-0.0132	0.2920	0.0538	0.2382	-0.6363
5	1.27	0.0	0.2373	-0.1826	0.0204	-0.0509	-0.0127	0.2976	0.0538	0.2438	-0.7696
6	2.31	0.0	0.4493	-0.3475	-0.0120	-0.0194	-0.0120	0.3021	0.0538	0.2483	-0.8848
7	4.40	0.0	0.7937	-0.7148	0.0051	-0.0411	-0.0177	0.3066	0.0538	0.2528	-0.8949
8	6.44	0.0	1.1495	-1.1283	-0.0027	-0.0337	-0.0165	0.3171	0.0538	0.2633	-0.9406
9	9.54	0.0	1.6493	-1.6455	-0.0049	-0.0270	-0.0220	0.3254	0.0538	0.2721	-0.9903
10	10.57	0.0	2.1189	-2.1767	-0.0167	-0.0116	-0.0206	0.3463	0.0538	0.2925	-1.0273
11	12.46	0.0	2.6163	-2.7887	-0.0215	-0.0046	-0.0206	0.3679	0.0538	0.3141	-1.0659
12	14.73	0.01	3.1649	-3.5020	-0.0259	-0.0160	-0.0246	0.3856	0.0538	0.3318	-1.1065
13	16.82	0.01	3.7632	-4.4018	-0.0233	-0.0141	-0.0231	0.4072	0.0511	0.3561	-1.1696
14	14.97	0.0	4.4513	-5.4403	-0.0185	-0.0045	-0.0281	0.4292	0.0484	0.3808	-1.2240
15	21.02	0.01	5.1496	-6.6621	-0.0301	0.0143	-0.0199	0.4547	0.0456	0.4091	-1.2876
16	23.20	0.01	6.0130	-8.1333	-0.0470	0.0359	-0.0246	0.4870	0.0402	0.4418	-1.3528
17	0.25	0.0	0.0745	-0.0470	0.0259	-0.0478	-0.0132	0.2951	0.0484	0.2467	-0.6309

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LANGLEY RESEARCH CENTER (-ASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME RX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
J	74	4.63	3.0	45.0	01.1F34	15.420	0	0	0	0	FIXED
POINT	ALPHA	META	CN	CLN	CV	CLN	CLL	CA	CAR	CAF	XCP
1	-3.11	0.0	-0.6405	0.5561	0.0334	-0.1004	-0.0003	0.3091	0.0505	0.2506	-0.9925
2	-1.54	0.0	-0.3046	0.3314	0.0277	-0.0444	-0.0147	0.3064	0.0533	0.2536	-1.0086
3	-0.57	0.0	-0.1229	0.1557	0.0232	-0.0445	-0.0137	0.2999	0.0532	0.2467	-1.2666
4	0.50	0.0	0.0544	-0.0103	0.0141	-0.0439	-0.0132	0.2970	0.0532	0.2438	-0.1727
5	1.53	0.0	0.2255	-0.1542	0.0244	-0.0411	-0.0127	0.3054	0.0533	0.2521	-0.6830
6	2.56	0.0	0.4249	-0.3555	0.0293	-0.0413	-0.0108	0.3103	0.0533	0.2570	-0.8327
7	4.64	0.0	0.7470	-0.6930	0.0044	-0.0458	-0.0178	0.3144	0.0533	0.2615	-0.8689
8	6.70	0.0	1.2147	-1.1147	-0.0054	-0.0243	-0.0234	0.3225	0.0533	0.2642	-0.9105
9	8.78	0.0	1.6710	-1.6145	-0.0105	-0.0231	-0.0222	0.3302	0.0532	0.2770	-0.9689
10	10.81	0.0	2.1593	-2.2355	-0.0154	-0.0247	-0.0277	0.3471	0.0560	0.2911	-1.0396
11	12.91	-0.01	2.7246	-2.6535	-0.0060	-0.0272	-0.0331	0.3675	0.0560	0.3115	-1.0876
12	15.01	0.0	3.2926	-3.7211	-0.0312	-0.0050	-0.0384	0.3901	0.0533	0.3368	-1.1302
13	17.10	-0.01	3.6314	-4.6060	-0.0314	0.0052	-0.0370	0.4131	0.0533	0.3598	-1.1715
14	19.23	-0.01	4.4266	-5.4054	-0.0474	0.0375	-0.0422	0.4344	0.0532	0.3856	-1.2115
15	21.27	-0.01	5.3351	-6.5005	-0.0344	0.0235	-0.0473	0.4675	0.0505	0.4170	-1.2312
16	23.45	-0.01	6.0742	-7.4182	-0.0551	0.0170	-0.0549	0.4961	0.0478	0.4443	-1.2213
17	0.52	0.0	0.0608	0.0005	0.0109	-0.0775	-0.0132	0.2476	0.0505	0.2474	0.0070

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LANGLEY RESEARCH CENTER (NASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART -ACH R110-6				PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
3 75 2.30 3.0				0.0	1141	34	15.420	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CN	CLM	CLY	CLM	CLL	CA	CAN	CAF	XCP	
1	-1.94	0.02	-3.1541	10.1241	-0.0260	-0.1191	-0.0420	1.2470	0.1445	1.1425	-3.2090	
2	-2.20	0.02	-2.4427	9.5472	-0.0344	-0.1154	-0.0321	1.2364	0.1431	1.0933	-3.5456	
3	-1.24	0.03	-2.4415	9.1715	-0.0509	-0.0467	-0.0323	1.2040	0.1445	1.0645	-3.8351	
4	-0.10	0.02	-2.0643	8.7551	-0.0314	-0.1091	-0.0327	1.1779	0.1488	1.0291	-4.2371	
5	1.92	0.03	-1.7321	8.2581	-0.0609	-0.0547	-0.0351	1.1391	0.1514	0.9877	-4.7658	
6	2.06	0.02	-1.4311	7.7730	-0.0304	-0.0827	-0.0338	1.0947	0.1517	0.9430	-5.5470	
7	4.31	0.02	-0.6647	6.5609	-0.0401	-0.0545	-0.0312	0.9956	0.1544	0.8412	-9.7967	
8	6.47	0.02	0.0444	5.3740	-0.0515	-0.0441	-0.0356	0.9036	0.1601	0.7435	111.1165	
9	8.42	0.03	0.2275	4.0715	-0.0649	-0.0716	-0.0339	0.8049	0.1672	0.6376	4.0204	
10	10.80	0.02	1.6673	2.6223	-0.0546	-0.0744	-0.0293	0.7014	0.1700	0.5314	1.5720	
11	13.04	0.03	2.5610	1.1070	-0.0667	-0.0247	-0.0276	0.5946	0.1714	0.4234	0.4321	
12	15.35	0.03	3.4452	-0.1570	-0.0716	-0.0771	-0.0153	0.5179	0.1686	0.3493	-0.0457	
13	17.61	0.03	4.2689	-1.1074	-0.0500	-0.0843	-0.0238	0.4713	0.1672	0.3041	-0.2594	
14	19.43	0.03	4.6273	-1.1744	-0.0517	-0.1157	-0.0150	0.4331	0.1601	0.2730	-0.3540	
15	22.13	0.03	5.4305	-2.0157	-0.0548	-0.0429	-0.0046	0.3993	0.1616	0.2377	-0.4486	
16	24.45	0.04	6.7255	-3.6175	-0.0444	-0.0637	-0.0076	0.3579	0.1602	0.1976	-0.5379	
17	-0.10	0.03	-2.0533	8.7517	-0.0465	-0.0904	-0.0361	1.1774	0.1489	1.0285	-4.2623	

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	WACT	WALM	RX10-6	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	YA	2.66	3.0	0.0	01-1F34	15.420	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAR	CAF	XCP
1	-4.00	0.01	-2.7107	8.5584	-0.0252	-0.1114	-0.0362	1.1283	0.1086	1.0197	-3.1578
2	-2.41	0.01	-2.3042	8.6667	-0.0217	-0.1153	-0.0364	1.0922	0.1070	0.9752	-3.4939
3	-1.35	0.01	-2.0407	7.7215	-0.0191	-0.1040	-0.0335	1.0547	0.1086	0.9461	-3.7637
4	-0.23	0.02	-1.7407	7.9215	-0.0154	-0.1216	-0.0380	1.0227	0.1102	0.9125	-4.2061
5	0.85	0.01	-1.4427	6.8463	-0.0174	-0.1074	-0.0328	0.9848	0.1119	0.8749	-4.7801
6	1.89	0.01	-1.1432	6.4257	-0.0147	-0.1053	-0.0315	0.9475	0.1134	0.8341	-5.6208
7	4.09	0.02	-0.4452	5.3357	-0.0209	-0.0954	-0.0328	0.8550	0.1150	0.7400	-10.0969
8	6.22	0.02	0.1413	4.3116	-0.0246	-0.0842	-0.0244	0.7709	0.1109	0.6510	30.5137
9	8.38	0.02	0.4233	3.1505	-0.0335	-0.0561	-0.0251	0.6823	0.1214	0.5609	3.8462
10	10.55	0.02	1.0044	1.8167	-0.0375	-0.0545	-0.0275	0.5856	0.1247	0.4609	1.1320
11	12.68	0.02	2.4242	0.7576	-0.0518	-0.0451	-0.0214	0.5234	0.1247	0.3987	0.3260
12	14.49	0.02	3.0376	-0.0300	-0.0423	-0.0519	-0.0242	0.4924	0.1246	0.3678	-0.0100
13	17.08	0.02	3.4344	-0.5304	-0.0494	-0.0525	-0.0224	0.4803	0.1230	0.3573	-0.1386
14	19.36	0.03	4.3104	-1.3073	-0.0590	-0.0517	-0.0167	0.4643	0.1199	0.3494	-0.2337
15	21.50	0.03	4.0450	-1.5421	-0.0483	-0.0457	-0.0150	0.4532	0.1166	0.3366	-0.3194
16	23.76	0.03	5.7450	-2.2463	-0.0524	-0.0498	-0.0131	0.4375	0.1134	0.3241	-0.3997
17	-0.23	0.02	-1.7346	7.3328	-0.0168	-0.1205	-0.0379	1.0241	0.1103	0.9138	-4.2157



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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST BODY NAME: 37 J-45 3.0											
P-1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
3 77 J-45 3.0 0.0 51-1F34 15.420 0 -20 0 -20 FIXED											
POINT	ALPHA	META	CN	CLM	CV	CLN	CLL	CA	CAB	CAP	XCP
1	-3.46	0.0	-2.0453	6.4937	-0.0142	-0.0607	-0.0214	3.8765	0.0675	0.8090	-3.1749
2	-2.74	0.0	-1.7047	6.0204	-0.0047	-0.0717	-0.0286	3.8316	0.0654	0.7642	-3.5316
3	-1.72	0.0	-1.4772	5.6521	0.0014	-0.0745	-0.0245	3.8034	0.0654	0.7384	-3.8533
4	-0.13	0.0	-1.2302	5.3144	0.0099	-0.0843	-0.0306	3.7716	0.0654	0.7042	-4.3203
5	0.40	0.0	-0.9948	4.9354	0.0124	-0.0925	-0.0292	3.7355	0.0675	0.6660	-4.9349
6	1.93	0.0	-0.7324	4.4673	0.0180	-0.0944	-0.0278	3.6980	0.0675	0.6305	-6.0995
7	4.05	0.0	-0.2176	3.9151	0.0040	-0.0797	-0.0248	3.6242	0.0675	0.5567	-16.6137
8	6.14	0.01	0.3344	2.6847	-0.0704	-0.0493	-0.0169	3.5479	0.0696	0.4783	8.0285
9	8.26	0.0	0.8411	1.7713	-0.0003	-0.0455	-0.0157	3.4826	0.0646	0.4130	2.8103
10	10.33	0.01	1.3826	1.2025	-0.0078	-0.0444	-0.0144	3.4584	0.0718	0.3866	0.8696
11	12.42	0.0	1.8349	0.7431	-0.0073	-0.0446	-0.0181	3.4638	0.0697	0.3941	0.5148
12	14.55	0.01	2.3016	0.1647	-0.0127	-0.0555	-0.0218	3.4743	0.0697	0.4086	0.3322
13	16.67	0.01	2.7459	0.5983	-0.0206	-0.0596	-0.0202	3.4942	0.0675	0.4267	0.2147
14	18.43	0.01	3.1057	0.3764	-0.0314	-0.0514	-0.0239	3.5066	0.0654	0.4412	0.1144
15	20.47	0.01	3.4744	0.0424	-0.0354	-0.0545	-0.0221	3.5164	0.0633	0.4531	0.0230
16	23.14	0.02	4.4447	-0.3554	-0.0445	-0.0720	-0.0097	3.5211	0.0612	0.4599	-0.0781
17	-0.13	0.0	-1.2241	5.3457	0.0131	-0.1030	-0.0305	3.7670	0.0654	0.7016	-4.3203

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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME RX10-6												
3 78 4.63 3.0 0.0 0.111F34 15.420 0 -20 0 -20 FIXED												
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP	
1	-3.40	0.0	-1.7950	5.0810	-0.0122	-0.0454	-0.0212	0.7843	0.0496	0.7347	-3.1649	
2	-1.82	0.0	-1.4326	5.1556	0.0006	-0.0608	-0.0232	0.7350	0.0496	0.6854	-3.5988	
3	-0.84	0.0	-1.2353	4.8623	0.0104	-0.0775	-0.0245	0.7070	0.0496	0.6574	-3.9244	
4	0.24	0.0	-0.9464	4.4911	0.0204	-0.0491	-0.0260	0.6761	0.0496	0.6265	-4.5055	
5	1.28	0.0	-0.7536	4.0805	-0.0040	-0.0536	-0.0243	0.5400	0.0496	0.5904	-5.4190	
6	2.27	0.0	-0.5337	3.7017	-0.0001	-0.0501	-0.0228	0.6051	0.0496	0.5555	-6.9359	
7	4.38	0.0	-0.0506	2.4619	0.0036	-0.0442	-0.0193	0.5353	0.0496	0.4857	-58.5363	
8	6.42	0.0	0.4594	2.1118	0.0109	-0.0525	-0.0161	0.4663	0.0523	0.4140	4.5970	
9	8.53	0.0	0.9542	1.5435	0.0075	-0.0476	-0.0150	0.4369	0.0523	0.3846	1.6995	
10	10.59	0.0	1.3036	1.3026	-0.0042	-0.0434	-0.0270	0.4401	0.0523	0.3878	0.9994	
11	12.65	0.0	1.6932	1.1610	-0.0048	-0.0491	-0.0257	0.4572	0.0523	0.4049	0.6857	
12	14.71	0.0	2.0763	1.0484	-0.0043	-0.0678	-0.0243	0.4743	0.0496	0.4247	0.5242	
13	16.80	0.01	2.5061	0.9551	-0.0296	-0.0353	-0.0295	0.4946	0.0496	0.4458	0.3811	
14	18.96	0.01	3.0032	0.7217	-0.0275	-0.0270	-0.0347	0.5133	0.0469	0.4664	0.2403	
15	20.96	0.01	3.5024	0.4143	-0.0545	-0.0096	-0.0331	0.5290	0.0441	0.4849	0.1183	
16	23.14	0.01	4.1176	-0.0276	-0.0464	-0.0135	-0.0313	0.5399	0.0441	0.4958	-0.0067	
17	0.23	0.0	-0.9969	4.4913	0.0190	-0.0832	-0.0260	0.6764	0.0469	0.6295	-4.5052	

TEST MARY MACH FRI-6											
3 70 2.30 2.5 45.0 51.1F34 15.420 70 -20 20 -20 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLV	CLL	CA	CAB	CAF	KCP
1	-3.41	0.07	-4.0705	14.2055	-0.0269	-0.0948	-0.0321	2.0653	0.1635	1.4018	-3.4889
2	-7.21	0.07	-3.4111	13.0074	-0.0324	-0.0940	-0.0311	2.0020	0.1652	1.4368	-3.7682
3	-1.17	0.07	-3.2712	13.1631	-0.0223	-0.1171	-0.0344	1.9576	0.1667	1.7999	-4.0117
4	-0.07	0.07	-2.9475	12.7584	-0.0346	-0.0927	-0.0256	1.9117	0.1684	1.7433	-4.2707
5	1.03	0.06	-2.6623	12.2453	-0.0206	-0.0947	-0.0333	1.8668	0.1707	1.6906	-4.6183
6	2.15	0.06	-2.3564	11.8193	-0.0275	-0.0774	-0.0327	1.8029	0.1720	1.6309	-5.0158
7	4.24	0.06	-1.8344	10.9551	-0.0364	-0.0567	-0.0355	1.6471	0.1714	1.4952	-6.5177
8	6.35	0.06	-0.9754	9.4584	-0.0749	0.0178	-0.0368	1.5253	0.1719	1.3534	-10.2098
9	8.54	0.05	-0.2354	4.3647	-0.0436	-0.0171	-0.0390	1.3900	0.1770	1.2130	-35.7013
10	10.70	0.06	0.4006	7.3853	-0.0940	0.0743	-0.0349	1.2610	0.1622	1.0788	15.2347
11	12.43	0.05	1.1452	6.4632	-0.0904	0.0602	-0.0418	1.1393	0.1457	0.9536	5.4076
12	15.02	0.04	1.8008	5.0955	-0.0730	0.0409	-0.0345	1.0344	0.1874	0.8525	3.0477
13	17.24	0.04	2.4154	4.9162	-0.0486	0.0406	-0.0479	0.9495	0.1874	0.7621	1.8869
14	19.50	0.04	3.7512	4.2157	-0.0924	0.0132	-0.0428	0.8699	0.1857	0.6842	1.2592
15	21.44	0.05	4.1455	3.4022	-0.1144	0.0571	-0.0548	0.7404	0.1857	0.6107	0.8484
16	23.49	0.05	4.9273	2.4734	-0.1264	0.0448	-0.0560	0.7341	0.1857	0.5484	0.5426
17	-0.06	0.07	-2.9626	12.7452	-0.0220	-0.1040	-0.0338	1.9072	0.1689	1.7383	-4.2732

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LANGLEY RESEARCH CENTER (ASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST	PAWT	MALM	WALU-6	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	80	2.40	3.0	45.0	01-12-34	15.420	20	-20	20	-20	FIXED
POINT	ALPHA	BETA	CX	CLX	CY	CLY	CLL	CA	CAH	CAF	ACP
1	-3.21	0.07	-4.6761	11.9452	-0.0145	-0.1154	-0.0267	1.7872	0.1144	1.6728	-3.6375
2	-2.20	0.06	-3.0717	11.7431	0.0015	-0.1231	-0.0298	1.7208	0.1159	1.6041	-3.6995
3	-1.17	0.06	-2.7774	10.9347	0.0154	-0.1487	-0.0331	1.5714	0.1160	1.5554	-3.9370
4	-0.37	0.06	-2.4443	10.0497	0.0013	-0.1232	-0.0325	1.6216	0.1160	1.5056	-4.2244
5	1.02	0.05	-2.1791	10.0644	-0.0040	-0.1127	-0.0319	1.5699	0.1176	1.4512	-4.6120
6	2.05	0.05	-1.4972	9.6013	-0.0113	-0.0938	-0.0314	1.5171	0.1207	1.3964	-5.0608
7	4.23	0.05	-1.2454	8.5514	-0.0306	-0.0534	-0.0341	1.3899	0.1224	1.2675	-6.8636
8	6.37	0.05	-0.6147	7.5551	-0.0439	-0.0325	-0.0292	1.2679	0.1255	1.1424	-12.1915
9	2.54	0.04	0.0009	6.6349	-0.0464	-0.0144	-0.0294	1.1489	0.1287	1.0201	962.1053
10	10.45	0.04	0.6294	5.8069	-0.0592	0.0354	-0.0333	1.0446	0.1320	0.9126	9.2262
11	12.40	0.04	1.2814	5.0301	-0.0564	-0.0073	-0.0360	0.9502	0.1336	0.8166	3.9255
12	14.49	0.04	1.4206	4.2464	-0.0709	0.0422	-0.0371	0.8672	0.1335	0.7337	2.2277
13	17.16	0.04	2.5544	3.7760	-0.0735	0.0175	-0.0300	0.8145	0.1336	0.6809	1.4759
14	19.47	0.04	3.2752	3.1774	-0.0897	0.0343	-0.0364	0.7599	0.1320	0.6279	0.9701
15	21.63	0.04	3.9327	2.5710	-0.0891	-0.0057	-0.0371	0.7254	0.1320	0.5938	0.6795
16	23.46	0.04	4.6614	2.1562	-0.0948	0.0033	-0.0452	0.6994	0.1319	0.5675	0.4625
17	-0.00	0.06	-2.4731	10.4925	-0.0094	-0.1174	-0.0286	1.6212	0.1175	1.5037	-4.2427

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LANGLEY RESEARCH CENTER (ASAC)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST DATA - ALM RAJUA											
3	81	3.95	3.0	45.0	01-1834	15.420	20	-20	20	-20	FIXED
POINT	ALPHA	BETA	CN	CLM	CV	CLH	CLL	CA	CAN	CAF	KCP
1	-3.50	0.03	-2.5939	8.4813	0.0135	-0.1062	-0.0257	1.3018	0.0645	1.3173	-3.4625
2	-2.00	0.03	-2.7341	8.3463	0.0331	-0.0441	-0.0303	1.3136	0.0445	1.2491	-3.7515
3	-1.00	0.03	-2.3232	8.0345	0.0250	-0.1225	-0.0246	1.2697	0.0645	1.2052	-3.9772
4	0.00	0.03	-1.7601	7.5946	0.0326	-0.0605	-0.0294	1.2225	0.0666	1.1559	-4.3177
5	1.13	0.03	-1.5123	7.1714	0.0163	-0.1001	-0.0289	1.1717	0.0666	1.1051	-4.7421
6	2.16	0.03	-1.2612	6.7215	-0.0014	-0.0626	-0.0232	1.1151	0.0667	1.0444	-5.3294
7	3.26	0.02	-0.7144	5.8276	-0.0073	-0.0640	-0.0222	1.0125	0.0688	0.9437	-7.9331
8	4.31	0.02	-0.2453	5.2363	-0.0242	-0.0349	-0.0213	0.9325	0.0709	0.8616	-19.5506
9	5.45	0.02	0.2219	4.5504	-0.0247	-0.0264	-0.0273	0.8561	0.0709	0.7852	20.6353
10	10.53	0.02	0.7421	3.9366	-0.0271	-0.0191	-0.0331	0.7923	0.0730	0.7143	5.3038
11	12.61	0.02	1.2439	3.4357	-0.0326	-0.0133	-0.0378	0.7506	0.0730	0.6776	2.7621
12	14.73	0.02	1.7406	3.1581	-0.0222	-0.0407	-0.0239	0.7370	0.0730	0.6640	1.8316
13	16.87	0.02	2.2449	2.4422	-0.0202	-0.0437	-0.0203	0.7357	0.0730	0.6627	1.2677
14	19.07	0.02	2.8444	2.7276	-0.0244	-0.0454	-0.0166	0.7339	0.0730	0.6609	0.9551
15	21.15	0.02	3.4214	2.5354	-0.0474	-0.0711	-0.0246	0.7335	0.0730	0.6605	0.7409
16	23.37	0.02	4.0644	2.3243	-0.0540	-0.0497	-0.0307	0.7311	0.0730	0.6581	0.5718
17	0.00	0.03	-1.7526	7.5486	0.0302	-0.1159	-0.0246	1.2157	0.0709	1.1448	-4.3132

## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

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## MARTIN MISSILE TAIL EFFECTS DATA

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TEST DATA											
3 02 0.63 1.0 45.0 dia 1F34 15.420 20 -20 20 -20 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.13	0.02	-2.2533	7.0264	0.0142	-0.1053	-0.0198	1.2320	0.0484	1.1836	-3.4735
2	-1.54	0.02	-1.4063	7.2411	0.0056	-0.0846	-0.0191	1.1612	0.0484	1.1128	-3.7985
3	-0.57	0.02	-1.0406	6.4701	0.0104	-0.1141	-0.0254	1.1161	0.0484	1.0697	-4.0874
4	0.46	0.02	-1.4534	6.4704	0.0305	-0.1125	-0.0249	1.0684	0.0484	1.0700	-4.4421
5	1.54	0.02	-1.2255	6.0445	0.0332	-0.1181	-0.0245	1.0180	0.0484	0.9646	-4.9569
6	2.53	0.02	-0.9961	5.6462	-0.0016	-0.0496	-0.0241	0.9691	0.0484	0.9267	-5.7205
7	4.44	0.02	-0.5043	4.9684	-0.0189	-0.0546	-0.0231	0.8817	0.0511	0.8306	-9.7564
8	6.64	0.02	-0.0567	4.3514	-0.0334	-0.0328	-0.0289	0.8061	0.0511	0.7550	-76.7474
9	7.75	0.02	0.3631	3.7433	-0.0477	-0.0140	-0.0333	0.7433	0.0511	0.6922	10.3050
10	10.79	0.01	0.4352	3.2843	-0.0165	-0.0347	-0.0313	0.7030	0.0538	0.6492	3.9324
11	12.86	0.01	1.2326	3.0496	-0.0131	-0.0554	-0.0247	0.6984	0.0538	0.6446	2.5142
12	14.97	0.01	1.6957	2.4644	-0.0086	-0.0441	-0.0208	0.7022	0.0538	0.6484	1.7160
13	17.05	0.01	2.1746	2.7174	-0.0225	-0.0403	-0.0236	0.7106	0.0538	0.6568	1.2447
14	19.22	0.01	2.4433	2.5333	-0.0361	-0.0562	-0.0261	0.7205	0.0538	0.6667	0.9406
15	21.22	0.01	3.1454	2.3637	-0.0453	-0.0448	-0.0297	0.7229	0.0538	0.6491	0.7419
16	23.39	0.02	3.7703	2.1242	-0.0391	-0.0818	-0.0381	0.7185	0.0536	0.6447	0.5634
17	3.49	0.02	-1.4568	6.4867	0.0332	-0.1347	-0.0249	1.0683	0.0511	1.0172	-4.4541

### MARTIN MISSILE TAIL EFFECTS DATA

TEST PARTY		WALCH HX10-6		PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3		03 2:36 3:0		0.0	01-1F0	15.420	OFF	OFF	OFF	OFF	FIXED
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAG	CAF	KCP
1	-3.91	0.0	-0.0481	-0.2982	-0.0142	-0.0245	-0.0101	0.3636	0.1310	0.2326	0.4271
2	-7.22	0.0	-0.3902	-0.1723	-0.0165	-0.0162	-0.0052	0.3561	0.1255	0.2306	0.4349
3	-1.13	0.01	-0.2020	-0.0967	-0.0169	0.0011	-0.0043	0.3537	0.1235	0.2302	0.4707
4	-0.01	0.01	0.0053	-0.0039	-0.0446	0.0012	-0.0034	0.3526	0.1235	0.2291	-0.7396
5	1.07	0.01	0.2151	0.0045	-0.0200	0.0019	-0.0025	0.3531	0.1233	0.2298	0.4391
6	7.10	0.01	0.3944	0.1424	-0.0437	-0.0005	-0.0051	0.3547	0.1248	0.2299	0.4879
7	4.43	0.01	0.8009	0.3250	-0.0412	0.0050	-0.0034	0.3626	0.1332	0.2294	0.4018
8	6.50	0.02	1.2254	0.6772	-0.0532	0.0037	-0.0016	0.3714	0.1388	0.2326	0.3895
9	8.72	0.02	1.6440	0.9590	-0.0534	0.0004	0.0001	0.3847	0.1530	0.2357	0.3540
10	10.28	0.01	2.1519	0.6211	-0.0371	-0.0012	0.0018	0.4121	0.1700	0.2421	0.2886
11	13.08	0.02	2.7099	0.4630	-0.0581	-0.0031	0.0001	0.4222	0.1770	0.2452	0.1709
12	15.30	0.02	3.3055	0.1701	-0.0653	-0.0033	0.0021	0.4253	0.1798	0.2455	0.0505
13	17.57	0.02	4.0276	-0.0317	-0.0631	-0.0063	0.0040	0.4334	0.1798	0.2536	-0.0079
14	19.48	0.03	4.6572	-0.1484	-0.0651	-0.0224	0.0093	0.4445	0.1812	0.2633	-0.0310
15	22.04	0.02	5.3074	-0.3725	-0.0555	-0.0020	0.0076	0.4462	0.1769	0.2693	-0.0703
16	24.39	0.03	6.0421	-0.7295	-0.0839	-0.0249	0.0094	0.4534	0.1727	0.2807	-0.1208
17	-0.02	0.01	0.0133	0.0044	-0.0459	-0.0064	-0.0033	0.3520	0.1233	0.2287	-0.2689

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MANTIN MISSILE TAIL EFFECTS DATA

TEST	PART	WACH	RATJ-0	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	H4	2.30	3.9	45.0	d1-1F0	15.420	OFF	OFF	OFF	OFF	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.43	0.01	-0.7255	-0.2547	-0.0260	-0.0341	-0.0069	0.3413	0.1291	0.2322	0.3499
2	-2.74	0.02	-0.6177	-0.1546	-0.0307	-0.0434	-0.0005	0.3545	0.1235	0.2310	0.4066
3	-1.14	0.01	-0.2732	-0.0400	-0.0305	-0.0407	0.0014	0.3524	0.1221	0.2307	0.4040
4	0.0	0.02	0.0004	-0.0033	-0.0467	-0.0237	0.0	0.3514	0.1222	0.2292	-10.0667
5	1.58	0.02	0.7657	0.0636	-0.0433	-0.0268	0.0009	0.3511	0.1208	0.2303	0.3100
6	2.13	0.02	0.3417	0.1547	-0.0452	-0.0187	0.0052	0.3518	0.1235	0.2283	0.3950
7	4.34	0.02	0.7949	0.3501	-0.0422	-0.0044	0.0035	0.3542	0.1292	0.2300	0.4405
8	6.50	0.02	1.2397	0.5507	-0.0459	-0.0362	0.0053	0.3640	0.1377	0.2313	0.4553
9	8.70	0.02	1.4044	0.7461	-0.0437	-0.0100	0.0071	0.3744	0.1447	0.2347	0.4959
10	10.44	0.02	2.0127	1.0604	-0.0605	0.0291	0.0049	0.3435	0.1545	0.2390	0.5271
11	13.06	0.04	2.4950	1.2249	-0.0767	-0.0363	0.0109	0.4076	0.1645	0.2433	0.4929
12	15.26	0.04	2.4751	1.4147	-0.0984	0.0229	0.0128	0.4154	0.1729	0.2430	0.4755
13	17.53	0.04	3.5213	1.4935	-0.1050	0.0108	0.0113	0.4245	0.1814	0.2471	0.4241
14	19.23	0.05	4.1164	1.6054	-0.1044	-0.0045	0.0119	0.4294	0.1814	0.2444	0.3901
15	21.47	0.05	4.7085	1.4014	-0.1151	0.0040	0.0046	0.4358	0.1757	0.2601	0.3403
16	24.29	0.05	5.3976	1.4666	-0.1356	0.0445	0.0123	0.4450	0.1757	0.2693	0.2717
17	0.0	0.02	0.0033	0.0239	-0.0406	-0.0328	0.0035	0.3528	0.1234	0.2294	7.2364



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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	NAME	VAL	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	85	2.66	3.0	45.0	W1=1F0	15.470	OFF	OFF	OFF	OFF	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.77	0.01	-0.6541	-0.2744	-0.0200	-0.0349	0.0006	0.3244	0.1072	0.2176	0.4231
2	-7.22	0.0	-0.6000	-0.1635	-0.0103	-0.0171	0.0036	0.3717	0.1056	0.2161	0.4004
3	-1.12	0.01	-0.2673	-0.0837	-0.0100	-0.0241	0.0047	0.3223	0.1040	0.2183	0.4037
4	-0.02	0.01	-0.0077	-0.0156	-0.0270	-0.0152	0.0038	0.3229	0.1056	0.2173	2.0545
5	1.04	0.01	0.1554	0.0874	-0.0263	-0.0203	0.0046	0.3233	0.1056	0.2177	0.5627
6	2.10	0.01	0.2391	0.1570	-0.0270	-0.0135	0.0054	0.3251	0.1072	0.2179	0.4629
7	4.26	0.01	0.6878	0.3482	-0.0265	-0.0101	0.0070	0.3299	0.1072	0.2226	0.5062
8	6.30	0.02	1.0394	0.5700	-0.0466	-0.0000	0.0006	0.3366	0.1120	0.2246	0.5489
9	9.54	0.02	1.4166	0.7930	-0.0378	-0.0134	0.0064	0.3469	0.1160	0.2301	0.5598
10	10.66	0.02	1.7980	1.0017	-0.0502	0.0073	0.0080	0.3546	0.1231	0.2355	0.5577
11	12.85	0.02	2.2285	1.1584	-0.0541	0.0047	0.0098	0.3690	0.1295	0.2395	0.5200
12	15.02	0.03	2.7044	1.2283	-0.0793	0.0136	0.0116	0.3797	0.1327	0.2470	0.4541
13	17.26	0.03	3.2126	1.3065	-0.0777	0.0223	0.0136	0.3863	0.1359	0.2504	0.4067
14	19.46	0.03	3.7701	1.3052	-0.0471	0.0220	0.0141	0.3959	0.1327	0.2632	0.3462
15	21.61	0.03	4.3342	1.2431	-0.0474	0.0304	0.0140	0.4079	0.1327	0.2752	0.2868
16	23.85	0.04	4.9048	1.1472	-0.1097	0.0339	0.0100	0.4208	0.1327	0.2881	0.2308
17	-0.03	0.01	-0.0100	0.0106	-0.0173	-0.0180	0.0078	0.3255	0.1119	0.2136	-0.9739

## LANGLEY RESEARCH CENTER (AS4)

## UNITARY PLAN WIND TUNNEL (UPWT)

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST	FAST	MACM	RAIO	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	04	2.00	3.0	0.0	01110	15.420	OFF	OFF	OFF	OFF	FIXED
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAN	CAF	ACP
1	-3.92	0.01	-0.4440	-0.2951	-0.0436	0.0243	-0.0029	0.3274	0.1117	0.2157	0.4568
2	-7.31	0.01	-0.4447	-0.1550	-0.0414	0.0118	0.0023	0.3253	0.1285	0.2168	0.4051
3	-1.24	0.01	-0.7124	-0.0451	-0.0437	0.0141	0.0031	0.3244	0.1075	0.2159	0.4207
4	0.96	0.01	0.1654	0.0093	-0.0509	0.0115	0.0008	0.3266	0.1070	0.2196	0.5401
5	-0.16	0.01	-0.0715	0.0010	-0.0473	0.0075	0.0039	0.3248	0.1086	0.2162	-0.0750
6	1.91	0.01	0.3250	0.1862	-0.0531	0.0134	0.0016	0.3276	0.1085	0.2191	0.5729
7	4.11	0.02	0.6834	0.3439	-0.0588	0.0193	0.0031	0.3306	0.1085	0.2221	0.5005
8	6.74	0.02	1.0481	0.4747	-0.0636	0.0136	0.0047	0.3387	0.1117	0.2270	0.4576
9	8.34	0.02	1.4534	0.5220	-0.0664	0.0151	0.0062	0.3540	0.1161	0.2359	0.3596
10	10.53	0.02	1.9248	0.4622	-0.0654	0.0207	0.0079	0.3711	0.1325	0.2386	0.2395
11	12.59	0.02	2.4493	0.2760	-0.0644	0.0268	0.0057	0.3732	0.1341	0.2391	0.1127
12	14.46	0.02	2.9454	0.0841	-0.0647	0.0176	0.0113	0.3813	0.1341	0.2472	0.0201
13	17.06	0.02	3.5450	-0.0471	-0.0744	0.0019	0.0091	0.3915	0.1341	0.2574	-0.0133
14	19.28	0.03	4.1406	-0.2234	-0.0453	0.0442	0.0110	0.3993	0.1309	0.2444	-0.0540
15	23.73	0.04	5.3224	-0.7052	-0.1200	0.0675	0.0145	0.4268	0.1277	0.2991	-0.1310
16	21.46	0.03	4.7247	-0.4623	-0.1631	0.0407	0.0126	0.4101	0.1261	0.2848	-0.0977
17	21.46	0.04	4.7325	-0.4545	-0.1167	0.0529	0.0166	0.4103	0.1261	0.2842	-0.0960
18	-0.16	0.01	-0.0002	0.0110	-0.0409	0.0094	0.0048	0.3246	0.1117	0.2129	-1.3398

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MAINTAIN MISSILE TAIL EFFECTS DATA

TEST DATA MAINTAIN-6											
3 M9 J.45 3.0 45.0 M141F0 15.420 OFF OFF OFF OFF FIXED											
POINT	ALPHA	BETA	CN	CLN	CV	CLM	CLL	CA	CAR	CAF	XCP
1	-3.52	0.0	-0.4594	-0.2845	0.0010	-0.0276	0.0032	0.2543	0.0678	0.1845	0.6194
2	-1.94	0.0	-0.2532	-0.1732	-0.0055	-0.0132	0.0064	0.2490	0.0678	0.1812	0.6845
3	-1.05	0.0	-0.1115	-0.0445	-0.0101	-0.0101	0.0004	0.2494	0.0678	0.1816	0.8561
4	0.04	0.0	0.0114	-0.0327	-0.0147	0.0036	0.0106	0.2480	0.0678	0.1802	-1.5009
5	1.16	0.0	0.1645	0.0315	-0.0091	-0.0088	0.0113	0.2504	0.0656	0.1848	0.1454
6	2.13	0.0	0.2737	0.1361	-0.0151	-0.0040	0.0066	0.2516	0.0656	0.1860	0.4900
7	4.25	0.0	0.5721	0.2451	-0.0055	-0.0116	0.0132	0.2599	0.0678	0.1921	0.5157
8	6.33	0.01	0.8644	0.4462	-0.0224	0.0069	0.0093	0.2690	0.0678	0.2012	0.5153
9	8.44	0.01	1.1445	0.5920	-0.0410	0.0251	0.0106	0.2795	0.0678	0.2117	0.4977
10	10.54	0.01	1.5374	0.7172	-0.0328	0.0671	0.0121	0.2916	0.0720	0.2196	0.4665
11	12.62	0.01	1.9441	0.7761	-0.0267	0.0198	0.0138	0.3059	0.0742	0.2317	0.3992
12	14.75	0.01	2.3652	0.8214	-0.0370	0.0014	0.0154	0.3193	0.0742	0.2451	0.3473
13	16.89	0.01	2.8459	0.8181	-0.0491	0.0070	0.0119	0.3356	0.0742	0.2614	0.2875
14	19.04	0.02	3.3576	0.8292	-0.0632	0.0165	0.0126	0.3521	0.0742	0.2779	0.2478
15	21.19	0.01	3.8443	0.9103	-0.0510	0.0072	0.0119	0.3721	0.0763	0.2958	0.2353
16	23.39	0.02	4.4740	0.9284	-0.0697	0.0172	0.0112	0.3943	0.0763	0.3180	0.2075
17	0.10	0.0	0.0210	-0.0327	-0.0147	0.0036	0.0106	0.2445	0.0678	0.1767	-1.5009

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LANGLEY RESEARCH CENTER (ASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MANITV MISSILE TAIL EFFECTS DATA

TEST	PART	WALL	RAIU=6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	90	3.95	3.0	0.0	H1=1.0	15.470	OFF	OFF	OFF	OFF	FIXED
POINT	ALPHA	BETA	CN	CLN	CV	CLV	CLL	CA	CAB	CAF	KCP
1	-3.75	0.0	-0.4501	-0.2656	-0.0156	0.0213	0.0032	0.2444	0.0678	0.1806	0.5904
2	-2.14	0.0	-0.2444	-0.1516	-0.0171	0.0223	0.0042	0.2460	0.0678	0.1742	0.6205
3	-1.14	0.0	-0.1134	-0.0635	-0.0102	0.0151	0.0046	0.2444	0.0678	0.1766	0.7367
4	-0.10	0.0	0.0366	-0.0261	-0.0247	0.0312	0.0052	0.2447	0.0678	0.1769	-0.7689
5	0.95	0.0	0.1766	0.0445	-0.0195	0.0101	0.0004	0.2469	0.0678	0.1791	0.2769
6	1.95	0.0	0.3012	0.1244	-0.0124	0.0007	0.0014	0.2504	0.0678	0.1826	0.4270
7	4.57	0.0	0.5632	0.2747	-0.0220	0.0114	0.0027	0.2580	0.0678	0.1902	0.4711
8	6.14	0.0	0.4652	0.3585	-0.0295	0.0149	0.0039	0.2647	0.0678	0.1949	0.4050
9	4.23	0.0	1.2246	0.3644	-0.0353	0.0266	0.0	0.2742	0.0699	0.2043	0.2977
10	10.30	0.01	1.6245	0.2833	-0.0417	0.0200	0.0015	0.2903	0.0720	0.2163	0.1744
11	12.34	0.01	2.0147	0.2434	-0.0443	0.0427	0.0029	0.3019	0.0720	0.2299	0.1205
12	14.54	0.01	2.4732	0.1660	-0.0663	0.0418	0.0045	0.3163	0.0720	0.2443	0.0674
13	14.64	0.01	2.9443	0.0669	-0.0710	0.0444	0.0061	0.3325	0.0720	0.2605	0.0227
14	18.82	0.01	3.4472	-0.0240	-0.0633	0.0300	0.0026	0.3443	0.0720	0.2763	-0.0084
15	20.44	0.01	3.4414	-0.1556	-0.0754	0.0451	0.0043	0.3685	0.0720	0.2965	-0.0393
16	23.10	0.01	4.5678	-0.3533	-0.0708	0.0377	0.0061	0.3896	0.0699	0.3197	-0.0773
17	-0.10	0.0	0.0371	-0.0164	-0.0041	-0.0086	-0.0051	0.2429	0.0699	0.1730	-0.4504



## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART NAME: FALCON-6											
J 42 4.63 3.0											
PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
45.0 0101F0 15.420 OFF OFF OFF OFF FIRED											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.12	-0.01	-0.0256	-0.2133	0.0241	-0.0318	-0.0086	0.2274	0.0499	0.1779	0.5011
2	-1.54	0.0	-0.0204	-0.1176	0.0217	-0.0452	-0.0048	0.2235	0.0499	0.1737	0.5741
3	-0.64	-0.01	-0.0420	-0.0234	0.0340	-0.0473	-0.0023	0.2218	0.0499	0.1719	0.2507
4	0.50	0.0	0.0414	0.0444	0.0335	-0.0515	0.0003	0.2222	0.0499	0.1723	1.0726
5	1.53	0.0	0.1403	0.1045	0.0072	-0.0162	-0.0058	0.2247	0.0499	0.1748	0.5753
6	2.54	0.0	0.2475	0.1910	0.0164	-0.0141	0.0014	0.2275	0.0499	0.1776	0.6420
7	4.61	0.0	0.5731	0.3466	0.0193	-0.0143	-0.0040	0.2336	0.0499	0.1837	0.6051
8	6.67	0.0	0.8309	0.5254	0.0335	0.0022	-0.0028	0.2423	0.0499	0.1924	0.6330
9	8.77	0.0	1.1403	0.6404	0.0650	-0.0167	-0.0042	0.2525	0.0526	0.1949	0.5671
10	10.41	0.0	1.4846	0.6445	0.0191	-0.0445	-0.0001	0.2664	0.0526	0.2138	0.4610
11	12.67	0.0	1.8554	0.6800	-0.0184	-0.0077	-0.0054	0.2794	0.0553	0.2241	0.3665
12	14.97	0.0	2.2471	0.6950	-0.0015	-0.0444	-0.0038	0.2942	0.0553	0.2389	0.3093
13	17.06	0.0	2.6584	0.7050	-0.0071	-0.0345	-0.0022	0.3090	0.0553	0.2537	0.2655
14	19.14	0.0	3.1477	0.6557	-0.0026	-0.0544	-0.0015	0.3277	0.0553	0.2724	0.2070
15	21.23	0.0	3.6331	0.6657	0.0054	-0.0440	-0.0031	0.3495	0.0553	0.2942	0.1832
16	23.40	0.01	4.1778	0.6437	-0.0246	-0.0240	-0.0114	0.3717	0.0553	0.3164	0.1541
17	0.49	0.0	0.0417	0.0557	0.0330	-0.0399	-0.0064	0.2244	0.0553	0.1691	1.3362

LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

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MARTIN MISSILE TAIL EFFECTS DATA

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TEST	PART	WAL	WRIU-6	WRI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	93	2.36	3.0	0.0	BL40FD	0.0	OFF	OFF	OFF	OFF	FIXED
POINT	ALPHA	META	CN	CLM	CY	CLM	CLL	CA	CAR	CAF	XCP
1	-3.41	0.01	-0.1495	-0.5306	-0.0135	-0.0262	0.0022	0.2955	0.1230	0.1725	2.6767
2	-7.13	0.01	-0.1215	-0.4804	-0.0144	-0.0211	0.0026	0.2479	0.1187	0.1692	2.3095
3	-1.11	0.0	-0.0652	-0.1316	-0.0042	-0.0318	0.0031	0.2460	0.1185	0.1675	1.9882
4	-0.01	0.01	-0.0004	0.0143	-0.0170	-0.0249	0.0035	0.2839	0.1186	0.1653	-1.6976
5	0.49	0.01	0.0372	0.1835	-0.0303	-0.0274	0.0004	0.2855	0.1187	0.1688	4.0333
6	2.02	0.01	0.1041	0.3334	-0.0157	-0.0279	0.0043	0.2870	0.1208	0.1670	3.2071
7	4.16	0.01	0.2296	0.6514	-0.0297	-0.0207	0.0051	0.2942	0.1258	0.1684	2.6369
8	6.19	0.01	0.3400	0.8904	-0.0261	-0.0254	0.0025	0.3077	0.1356	0.1721	2.3629
9	8.32	0.01	0.5875	1.0942	-0.0204	-0.0103	0.0045	0.3217	0.1409	0.1748	1.8625
10	10.00	0.01	0.8314	1.1352	-0.0184	-0.0100	0.0013	0.3358	0.1596	0.1762	1.2182
11	12.54	0.01	1.3004	1.1522	-0.0208	-0.0105	0.0029	0.3442	0.1709	0.1783	0.8542
12	14.40	0.02	1.8074	1.1057	-0.0404	-0.0144	0.0045	0.3544	0.1737	0.1807	0.6118
13	16.98	0.02	2.2617	1.0742	-0.0576	-0.0183	0.0026	0.3627	0.1766	0.1841	0.4772
14	19.19	0.03	2.7524	1.0340	-0.0640	-0.0236	0.0047	0.3680	0.1765	0.1915	0.3756
15	21.32	0.03	3.2350	0.9470	-0.0747	-0.0449	0.0057	0.3669	0.1751	0.1947	0.2927
16	23.43	0.04	3.7713	0.8114	-0.0854	-0.0176	0.0038	0.3805	0.1495	0.2110	0.2151
17	-0.01	0.01	-0.0041	0.0244	-0.0178	-0.0331	0.0001	0.2827	0.1187	0.1640	-3.6346





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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	WALL	WALL-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
3	95	3.45	3.0	0.0	BLANK	0.0	OFF	OFF	OFF	OFF	FIXED
POINT	ALPHA	BETA	C <sub>x</sub>	C <sub>Lx</sub>	C <sub>y</sub>	C <sub>Lx</sub>	C <sub>LL</sub>	C <sub>A</sub>	C <sub>AH</sub>	C <sub>AF</sub>	XCP
1	-1.66	0.0	-0.0000	-0.0277	-0.0054	-0.0194	0.0040	0.2063	0.0668	0.1395	2.0762
2	-2.71	0.0	-0.1144	-0.2424	-0.0224	0.0016	0.0046	0.2055	0.0689	0.1346	2.0334
3	-1.16	0.0	-0.0444	-0.1145	-0.0141	-0.0100	0.0050	0.2043	0.0668	0.1375	2.3791
4	-0.13	0.0	0.0000	0.0300	-0.0053	-0.0217	0.0053	0.2049	0.0668	0.1380	33.3778
5	6.41	0.0	0.0520	0.1761	-0.0176	-0.0067	0.0057	0.2071	0.0668	0.1403	3.4258
6	1.42	0.01	0.1723	0.2892	-0.0294	0.0078	0.0061	0.2085	0.0668	0.1417	2.3648
7	4.00	0.01	0.2614	0.5367	-0.0331	0.0112	0.0069	0.2117	0.0668	0.1444	2.0500
8	6.03	0.0	0.4540	0.6502	-0.0123	-0.0156	0.0078	0.2145	0.0689	0.1496	1.4177
9	8.12	0.01	0.7270	0.8465	-0.0273	-0.0064	0.0069	0.2266	0.0710	0.1556	0.8894
10	10.16	0.01	1.0101	0.6719	-0.0208	0.0036	0.0047	0.2336	0.0753	0.1583	0.6651
11	12.25	0.01	1.3140	0.7044	-0.0213	-0.0075	0.0054	0.2446	0.0753	0.1693	0.5365
12	14.33	0.01	1.6353	0.7226	-0.0342	0.0032	0.0071	0.2552	0.0753	0.1799	0.4416
13	16.44	0.01	1.9764	0.7403	-0.0467	0.0158	0.0084	0.2662	0.0753	0.1929	0.3745
14	18.56	0.01	2.3522	0.7020	-0.0604	0.0131	0.0096	0.2677	0.0753	0.2074	0.2985
15	20.62	0.02	2.7356	0.6624	-0.0665	0.0146	0.0054	0.3013	0.0753	0.2250	0.2349
16	22.83	0.02	3.2116	0.5262	-0.0762	0.0450	0.0074	0.3229	0.0732	0.2497	0.1638
17	-0.12	0.01	0.0613	0.0295	-0.0264	0.0052	0.0054	0.2029	0.0710	0.1319	22.6769

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## LANGLEY RESEARCH CENTER (LARC)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST PART NAME R110-6											
3 96 4.63 3.0											
PM1 CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 01=0FO 0.0 OFF OFF OFF OFF FIXED											
POINT	ALPHA	BETA	CN	CLN	CV	CCN	CLL	CA	CAB	CAF	XCP
1	-3.32	0.0	-0.1950	-0.3800	-0.0170	-0.0127	0.0055	0.1845	0.0513	0.1332	1.9528
2	-1.43	0.01	-0.1065	-0.1910	-0.0344	0.0068	0.0091	0.1830	0.0513	0.1323	1.8009
3	-0.53	0.0	-0.0852	-0.0851	-0.0199	-0.0103	0.0065	0.1830	0.0513	0.1321	1.6199
4	0.23	0.0	0.0250	0.0775	-0.0061	-0.0285	0.0069	0.1857	0.0513	0.1344	3.0250
5	1.26	0.0	0.0922	0.2037	-0.0104	-0.0134	0.0073	0.1870	0.0513	0.1357	2.2095
6	2.26	0.01	0.1540	0.3290	-0.0301	0.0011	0.0010	0.1890	0.0513	0.1377	2.0730
7	4.32	0.0	0.3155	0.5353	-0.0274	-0.0042	0.0018	0.1919	0.0513	0.1406	1.6913
8	8.36	0.01	0.5255	0.8132	-0.0440	0.0040	0.0028	0.1956	0.0513	0.1443	1.1669
9	9.53	0.01	0.7719	0.0420	-0.0327	-0.0043	0.0037	0.2024	0.0513	0.1511	0.8325
10	10.43	0.01	1.0101	0.7054	-0.0109	-0.0038	0.0047	0.2129	0.0540	0.1569	0.6942
11	12.50	0.01	1.2777	0.7315	-0.0087	-0.0309	0.0058	0.2197	0.0540	0.1657	0.5682
12	14.58	0.01	1.5844	0.8402	-0.0388	0.0008	0.0002	0.2284	0.0540	0.1744	0.4356
13	16.66	0.01	1.9050	0.8170	-0.0433	-0.0005	0.0001	0.2410	0.0540	0.1870	0.3244
14	18.74	0.01	2.2444	0.8047	-0.0448	-0.0075	0.0026	0.2548	0.0540	0.2058	0.2158
15	20.77	0.01	2.6217	0.3964	-0.0674	0.0247	0.0034	0.2769	0.0540	0.2249	0.1513
16	22.92	0.01	3.0430	0.2545	-0.0665	0.0227	0.0053	0.2967	0.0540	0.2427	0.0853
17	0.24	0.0	0.0254	0.0776	-0.0055	-0.0288	0.0002	0.1874	0.0540	0.1334	3.0567

## **APPENDIX D**

### **TEST 4**

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6				PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4 2 2.36 3.0				0.0	W240F34	0.0	0	0	0	0	FIXED
POINT	ALPHA	BETA	CM	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-4.07	0.01	-0.9036	2.0454	-0.0250	0.0278	-0.0737	0.4771	0.1361	0.3410	-2.2637
2	-2.00	0.01	-0.4927	1.1670	-0.0292	0.0428	-0.0694	0.4696	0.1320	0.3376	-2.3686
3	-0.97	0.0	-0.2872	0.7112	-0.0184	0.0273	-0.0675	0.4678	0.1316	0.3362	-2.4763
4	0.05	0.0	-0.0818	0.2663	-0.0232	0.0376	-0.0674	0.4654	0.1305	0.3349	-3.2532
5	1.07	0.01	0.1077	-0.1707	-0.0279	0.0478	-0.0678	0.4649	0.1313	0.3336	-1.5858
6	2.12	0.0	0.3114	-0.6110	-0.0223	0.0425	-0.0684	0.4658	0.1325	0.3333	-1.9629
7	4.16	0.0	0.7183	-1.5022	-0.0270	0.0532	-0.0756	0.4687	0.1351	0.3336	-2.0914
8	6.23	0.0	1.1618	-2.4345	-0.0261	0.0675	-0.0739	0.4823	0.1455	0.3368	-2.0954
9	8.32	0.0	1.6438	-3.3859	-0.0205	0.0577	-0.0720	0.4925	0.1555	0.3370	-2.0598
10	10.45	0.0	2.2447	-4.4133	-0.0308	0.0734	-0.0741	0.4976	0.1608	0.3368	-1.9661
11	12.59	0.0	2.8811	-5.3806	-0.0159	0.0386	-0.0746	0.4960	0.1616	0.3344	-1.8676
12	14.74	0.0	3.5094	-6.2539	-0.0269	0.0543	-0.0745	0.4878	0.1616	0.3262	-1.7828
13	16.91	0.0	4.1920	-7.2393	-0.0069	0.0332	-0.0726	0.4854	0.1611	0.3243	-1.7269
14	19.06	0.0	4.8631	-8.1579	-0.0131	0.0103	-0.0689	0.4816	0.1593	0.3223	-1.6775
15	21.21	0.0	5.5509	-9.1065	0.0069	-0.0062	-0.0606	0.4784	0.1571	0.3213	-1.6405
16	0.06	0.01	-0.0946	0.2792	-0.0233	0.0281	-0.0717	0.4648	0.1310	0.3338	-2.9512

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SHEET 1 OF 1

## LANGLEY RESEARCH CENTER(NASA)

## UNITARY PLAN WIND TUNNEL(UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 3 2.36 3.0 -90.0 B240F34 0.0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-4.05	0.0	-0.0642	1.9662	0.0133	-0.0329	-0.0692	0.4765	0.1362	0.3403	-2.2751
2	-1.98	0.0	-0.4578	1.0755	0.0185	-0.0447	-0.0683	0.4696	0.1334	0.3362	-2.3493
3	-0.97	0.0	-0.2577	0.6244	0.0213	-0.0483	-0.0681	0.4677	0.1329	0.3348	-2.4230
4	0.06	0.0	-0.0576	0.1781	0.0242	-0.0500	-0.0677	0.4658	0.1319	0.3339	-3.0921
5	1.08	0.0	0.1303	-0.2412	0.0174	-0.0418	-0.0650	0.4670	0.1318	0.3352	-1.8512
6	2.11	0.0	0.3335	-0.6860	0.0227	-0.0461	-0.0667	0.4670	0.1325	0.3345	-2.0571
7	4.19	0.0	0.7340	-1.5737	0.0331	-0.0659	-0.0722	0.4724	0.1368	0.3354	-2.1439
8	6.24	-0.01	1.1808	-2.5182	0.0364	-0.0562	-0.0695	0.4880	0.1491	0.3399	-2.1326
9	8.31	-0.01	1.6581	-3.4853	0.0326	-0.0618	-0.0707	0.5006	0.1585	0.3421	-2.0899
10	10.44	0.0	2.2510	-4.4719	0.0119	-0.0400	-0.0737	0.5058	0.1635	0.3423	-1.9864
11	12.60	0.0	2.8914	-5.4626	0.0206	-0.0486	-0.0718	0.5047	0.1637	0.3410	-1.8892
12	14.74	0.0	3.5228	-6.3390	0.0299	-0.0697	-0.0706	0.4974	0.1637	0.3337	-1.7994
13	16.88	0.0	4.1799	-7.2694	0.0243	-0.0755	-0.0722	0.4971	0.1653	0.3318	-1.7439
14	19.05	0.0	4.8639	-8.2401	0.0310	-0.0719	-0.0734	0.4920	0.1625	0.3295	-1.6872
15	21.22	0.0	5.5818	-9.2127	0.0366	-0.1006	-0.0728	0.4903	0.1611	0.3292	-1.6505
16	0.05	0.0	-0.0730	0.2083	0.0120	-0.0265	-0.0696	0.4657	0.1320	0.3337	-2.8537
17	0.05	-0.01	-0.0730	0.2085	0.0250	-0.0509	-0.0675	0.4661	0.1314	0.3347	-2.8544

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LANGLEY RESEARCH CENTER(NASA)

UNITARY PLAN WIND TUNNEL(UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
4 4 2.86 3.0 -90.0 0240F34 0.0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	XCP
1	-4.22	-0.01	-0.7631	1.4355	0.0477	-0.0913	-0.0585	0.4249	0.1114	0.3135	-1.8812
2	-2.14	-0.01	-0.3997	0.7445	0.0448	-0.0868	-0.0542	0.4176	0.1090	0.3086	-1.8751
3	-1.13	-0.01	-0.2185	0.4154	0.0355	-0.0769	-0.0569	0.4161	0.1084	0.3077	-1.9013
4	-0.11	-0.01	-0.0485	0.0817	0.0422	-0.0829	-0.0547	0.4154	0.1084	0.3078	-1.6854
5	0.93	-0.01	0.1364	-0.2618	0.0358	-0.0757	-0.0574	0.4166	0.1085	0.3081	-1.9199
6	1.96	-0.01	0.3097	-0.5933	0.0454	-0.0849	-0.0552	0.4161	0.1089	0.3072	-1.9157
7	4.02	-0.01	0.4675	-1.2731	0.0631	-0.1144	-0.0557	0.4224	0.1113	0.3111	-1.9873
8	6.09	-0.01	1.0730	-2.0029	0.0573	-0.1074	-0.0541	0.4327	0.1172	0.3155	-1.8667
9	8.17	-0.01	1.5362	-2.7863	0.0432	-0.0922	-0.0549	0.4409	0.1238	0.3171	-1.8138
10	10.27	-0.01	2.0855	-3.6467	0.0413	-0.0898	-0.0535	0.4435	0.1242	0.3193	-1.7486
11	12.39	-0.01	2.6518	-4.4546	0.0436	-0.1049	-0.0560	0.4470	0.1238	0.3232	-1.6798
12	14.50	0.0	3.2213	-5.2420	0.0457	-0.1200	-0.0607	0.4501	0.1222	0.3279	-1.6273
13	16.61	0.0	3.8089	-6.0641	0.0470	-0.1344	-0.0632	0.4522	0.1200	0.3322	-1.5921
14	18.76	0.0	4.4365	-6.9649	0.0466	-0.1343	-0.0687	0.4560	0.1164	0.3396	-1.5699
15	20.85	0.0	5.0653	-7.8949	0.0452	-0.1583	-0.0722	0.4591	0.1150	0.3441	-1.5586
16	-0.10	0.0	-0.0424	0.0916	0.0266	-0.0795	-0.0521	0.4129	0.1085	0.3044	-2.1693

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LANGLEY RESEARCH CENTER (NASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 5 2.86 3.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0											
FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP
1	-4.24	0.0	-0.8060	1.5331	0.0032	-0.0154	-0.0599	0.4241	0.1121	0.3120	-1.9022
2	-2.16	0.0	-0.4224	0.8239	0.0035	-0.0152	-0.0577	0.4150	0.1084	0.3066	-1.9505
3	-1.13	0.0	-0.2302	0.4751	0.0037	-0.0098	-0.0577	0.4129	0.1073	0.3056	-2.0639
4	-0.10	0.0	-0.0642	0.1573	0.0038	-0.0152	-0.0578	0.4112	0.1073	0.3039	-2.3069
5	0.92	0.0	0.1217	-0.1865	0.0041	-0.0098	-0.0559	0.4128	0.1069	0.3059	-1.5322
6	1.96	0.0	0.2459	-0.5267	-0.0016	-0.0036	-0.0564	0.4126	0.1074	0.3052	-1.7801
7	4.01	0.0	0.6612	-1.1993	0.0045	-0.0041	-0.0575	0.4162	0.1093	0.3069	-1.8139
8	6.09	0.0	1.0667	-1.9289	-0.0010	0.0128	-0.0554	0.4250	0.1169	0.3081	-1.8083
9	8.17	0.0	1.5298	-2.7190	0.0047	-0.0036	-0.0581	0.4320	0.1227	0.3093	-1.7773
10	10.29	0.0	2.0839	-3.5906	0.0103	-0.0148	-0.0583	0.4360	0.1242	0.3118	-1.7230
11	12.41	0.0	2.6565	-4.3932	0.0099	-0.0094	-0.0560	0.4369	0.1241	0.3128	-1.6537
12	14.51	0.0	3.2144	-5.1672	0.0150	-0.0096	-0.0609	0.4398	0.1218	0.3180	-1.6075
13	16.65	0.0	3.8278	-6.0197	0.0201	-0.0208	-0.0611	0.4423	0.1189	0.3234	-1.5726
14	18.76	0.0	4.4255	-6.8813	0.0251	-0.0481	-0.0616	0.4455	0.1156	0.3299	-1.5549
15	20.86	0.0	5.0526	-7.8370	0.0304	-0.0646	-0.0619	0.4485	0.1145	0.3340	-1.5511
16	-0.09	0.0	-0.0526	0.1539	0.0098	-0.0160	-0.0553	0.4122	0.1070	0.3052	-2.9259

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	WALCH	DX10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4		6	3.95	3.0	-90.0	82x0F34	0.0	0	0	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP
1	-4.13	0.0	-0.6141	0.9213	0.0055	-0.0579	-0.0351	0.3356	0.0753	0.2603	-1.5002
2	-2.09	0.0	-0.3149	0.5030	0.0119	-0.0477	-0.0344	0.3319	0.0753	0.2566	-1.5973
3	-1.07	0.0	-0.1731	0.2982	0.0052	-0.0407	-0.0325	0.3337	0.0753	0.2584	-1.7228
4	-0.04	0.0	-0.0314	0.1006	-0.0019	-0.0334	-0.0368	0.3349	0.0753	0.2596	-3.2024
5	0.97	0.0	0.1150	-0.1015	0.0154	-0.0512	-0.0348	0.3350	0.0753	0.2597	-0.8826
6	2.00	0.0	0.2535	-0.2955	0.0128	-0.0486	-0.0360	0.3368	0.0753	0.2615	-1.1658
7	4.06	0.0	0.5617	-0.7089	0.0062	-0.0420	-0.0384	0.3403	0.0753	0.2650	-1.2620
8	6.12	0.0	0.9087	-1.1984	0.0285	-0.0649	-0.0413	0.3461	0.0753	0.2708	-1.3189
9	8.18	0.0	1.3180	-1.7670	0.0205	-0.0568	-0.0447	0.3566	0.0759	0.2807	-1.3487
10	10.25	0.0	1.7425	-2.3005	0.0125	-0.0660	-0.0475	0.3645	0.0767	0.2878	-1.3282
11	12.34	0.0	2.2004	-2.8802	0.0108	-0.0648	-0.0506	0.3754	0.0767	0.2987	-1.3089
12	14.41	0.0	2.6655	-3.5181	0.0276	-0.0992	-0.0575	0.3891	0.0761	0.3130	-1.3199
13	16.48	0.0	3.1765	-4.2601	0.0227	-0.0942	-0.0621	0.4030	0.0742	0.3288	-1.3411
14	18.56	0.0	3.7353	-5.1286	0.0345	-0.1226	-0.0647	0.4164	0.0725	0.3439	-1.3730
15	20.64	0.0	4.3678	-6.1714	0.0236	-0.1107	-0.0689	0.4343	0.0694	0.3649	-1.4129
16	-0.04	0.0	-0.0392	0.1015	0.0181	-0.0706	-0.0336	0.3346	0.0731	0.2615	-2.5885
17	-0.05	0.0	-0.0391	0.1014	0.0187	-0.0544	-0.0336	0.3349	0.0742	0.2607	-2.5924



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LANGLEY RESEARCH CENTER (NASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 7 3.95 3.0 0.0 B2J0F34 0.0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAP	KCP
1	-4.15	0.0	-0.6576	0.9720	-0.0010	0.0009	-0.0382	0.3353	0.0734	0.2619	-1.4781
2	-2.08	0.0	-0.3352	0.5403	-0.0011	0.0080	-0.0350	0.3309	0.0739	0.2570	-1.6119
3	-1.06	0.0	-0.1946	0.3289	-0.0012	0.0061	-0.0350	0.3315	0.0739	0.2576	-1.6908
4	-0.04	0.0	-0.0534	0.1335	-0.0013	0.0062	-0.0351	0.3344	0.0739	0.2605	-2.5007
5	0.97	0.0	0.0851	-0.0556	-0.0015	0.0083	-0.0357	0.3344	0.0739	0.2609	-0.6534
6	2.00	0.0	0.2436	-0.2653	-0.0018	0.0084	-0.0397	0.3352	0.0739	0.2613	-1.0880
7	4.04	0.0	0.5408	-0.6639	-0.0021	0.0085	-0.0410	0.3489	0.0739	0.2670	-1.2277
8	6.11	0.0	0.8921	-1.1390	-0.0023	0.0157	-0.0384	0.3441	0.0739	0.2702	-1.2767
9	8.17	0.0	1.3013	-1.7105	-0.0028	0.0159	-0.0418	0.3510	0.0745	0.2765	-1.3145
10	10.23	0.0	1.7114	-2.2321	0.0043	0.0081	-0.0484	0.3594	0.0763	0.2831	-1.3042
11	12.31	0.0	2.1801	-2.8307	0.0035	0.0085	-0.0517	0.3719	0.0763	0.2956	-1.2984
12	14.39	0.0	2.6480	-3.4622	0.0105	-0.0136	-0.0553	0.3847	0.0763	0.3084	-1.3875
13	16.48	0.0	3.1500	-4.1751	0.0100	-0.0206	-0.0555	0.3977	0.0753	0.3224	-1.3254
14	18.55	0.0	3.7213	-5.0734	0.0173	-0.0354	-0.0589	0.4097	0.0748	0.3349	-1.3634
15	20.64	0.0	4.3342	-6.0633	0.0094	-0.0271	-0.0590	0.4252	0.0732	0.3520	-1.4035
16	-0.05	0.0	-0.0734	0.1540	-0.0013	0.0010	-0.0352	0.3321	0.0734	0.2587	-2.8986

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
4 8 4.63 3.0 0.0 0240F34 0.0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CM	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.79	0.0	-0.5766	0.6274	-0.0198	0.0124	-0.0326	0.3097	0.0584	0.2513	-1.0888
2	-1.73	0.0	-0.7857	0.3103	-0.0202	0.0123	-0.0286	0.3089	0.0584	0.2505	-1.0750
3	-0.70	0.0	-0.1970	0.1753	-0.0205	0.0123	-0.0286	0.3085	0.0584	0.2501	-1.1164
4	0.30	0.0	-0.0254	0.0402	-0.0208	0.0123	-0.0286	0.3086	0.0584	0.2502	-1.5033
5	1.32	0.0	0.1028	-0.0869	-0.0211	0.0124	-0.0295	0.3084	0.0602	0.2482	-0.8454
6	2.34	0.0	0.2566	-0.2403	-0.0215	0.0125	-0.0304	0.3112	0.0602	0.2510	-0.9363
7	4.38	0.0	0.5378	-0.5199	-0.0222	0.0126	-0.0321	0.3104	0.0602	0.2502	-0.9667
8	6.43	0.0	0.8634	-0.9356	-0.0129	0.0026	-0.0412	0.3142	0.0608	0.2534	-1.0837
9	8.46	0.0	1.2090	-1.3547	-0.0134	0.0026	-0.0413	0.3238	0.0608	0.2630	-1.1205
10	10.52	0.0	1.6049	-1.8468	-0.0141	-0.0063	-0.0415	0.3337	0.0608	0.2729	-1.1507
11	12.56	0.0	2.0250	-2.3657	-0.0149	-0.0152	-0.0458	0.3489	0.0608	0.2881	-1.1778
12	14.63	0.0	2.4632	-3.0331	-0.0152	-0.0150	-0.0460	0.3586	0.0608	0.2970	-1.2280
13	16.68	0.0	2.9546	-3.8281	-0.0054	-0.0343	-0.0463	0.3727	0.0602	0.3125	-1.2954
14	18.74	0.0	3.5116	-4.8005	-0.0054	-0.0339	-0.0505	0.3818	0.0596	0.3222	-1.3670
15	20.81	0.0	4.1160	-5.9077	-0.0051	-0.0428	-0.0467	0.3977	0.0582	0.3395	-1.4353
16	0.30	0.0	-0.0254	0.0402	-0.0208	0.0123	-0.0286	0.3086	0.0588	0.2498	-1.5033
17	0.29	0.0	-0.0250	0.0406	-0.0307	0.0226	-0.0286	0.3084	0.0588	0.2496	-1.5740

## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

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## MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART MACH RX10-6											
4 9 4.63 3.0 -90.0 8240F34 0.0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.77	-0.01	-0.5278	0.5910	0.0725	-0.0955	-0.0306	0.3106	0.0620	0.2486	-1.1198
2	-1.73	-0.01	-0.2544	0.2802	0.0608	-0.0624	-0.0279	0.3093	0.0620	0.2473	-1.1013
3	-0.71	-0.01	-0.1227	0.1437	0.0802	-0.0827	-0.0283	0.3085	0.0620	0.2465	-1.1712
4	0.31	-0.01	0.0091	0.0163	0.0486	-0.0506	-0.0287	0.3108	0.0620	0.2488	1.7952
5	1.33	-0.01	0.1368	-0.1067	0.0735	-0.0766	-0.0290	0.3100	0.0620	0.2480	-0.7798
6	2.34	-0.01	0.2744	-0.2492	0.0723	-0.0758	-0.0295	0.3097	0.0620	0.2477	-0.9081
7	4.39	-0.01	0.5591	-0.5626	0.0947	-0.0996	-0.0349	0.3113	0.0620	0.2493	-1.0062
8	6.43	-0.01	0.8922	-0.9813	0.0778	-0.0876	-0.0371	0.3158	0.0620	0.2536	-1.0999
9	8.48	-0.01	1.2571	-1.4333	0.0755	-0.0808	-0.0435	0.3267	0.0626	0.2641	-1.1401
10	10.53	-0.01	1.6302	-1.8933	0.0732	-0.1005	-0.0458	0.3371	0.0626	0.2745	-1.1614
11	12.57	-0.01	2.0455	-2.4397	0.0788	-0.1066	-0.0488	0.3521	0.0626	0.2895	-1.1927
12	14.63	-0.01	2.4899	-3.0809	0.0820	-0.1313	-0.0528	0.3635	0.0626	0.3009	-1.2374
13	16.70	-0.01	3.0024	-3.9109	0.0824	-0.1310	-0.0545	0.3752	0.0612	0.3140	-1.3026
14	18.74	-0.01	3.5436	-4.8807	0.0808	-0.1280	-0.0578	0.3911	0.0599	0.3312	-1.3773
15	20.81	-0.01	4.1438	-5.9947	0.0763	-0.1217	-0.0582	0.4089	0.0591	0.3478	-1.4467
16	0.30	-0.01	-0.0010	0.0268	0.0735	-0.0977	-0.0327	0.3074	0.0599	0.2475	-26.8488

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LANGLEY RESEARCH CENTER(NASA)

UNITARY PLAN WIND TUNNEL(UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST BODY MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION  
4 10 4.63 3.0 0.0 82WOF35 0.0 0 0 0 0 FIXED

POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	KCP
1	-3.76	0.0	-0.5265	0.7850	0.0096	-0.0095	-0.0326	0.2859	0.0537	0.2322	-1.3398
2	-1.72	0.0	-0.2107	0.3165	0.0092	-0.0095	-0.0326	0.2816	0.0537	0.2270	-1.5023
3	-0.71	0.0	-0.0780	0.1589	0.0090	-0.0095	-0.0327	0.2808	0.0537	0.2271	-2.0374
4	0.31	0.0	0.0542	0.0017	0.0089	-0.0095	-0.0286	0.2801	0.0537	0.2264	0.0320
5	1.32	0.0	0.2011	-0.1918	0.0086	-0.0093	-0.0328	0.2807	0.0537	0.2270	-0.0540
6	2.35	0.0	0.3485	-0.3645	0.0084	-0.0093	-0.0328	0.2837	0.0537	0.2300	-1.0400
7	4.39	0.0	0.6420	-0.7301	-0.0020	0.0011	-0.0328	0.2876	0.0537	0.2339	-1.1372
8	6.43	0.0	0.9620	-1.1227	0.0075	-0.0091	-0.0330	0.2965	0.0537	0.2428	-1.1670
9	8.49	0.0	1.3088	-1.4998	0.0067	-0.0090	-0.0371	0.3044	0.0547	0.2497	-1.1400
10	10.53	0.0	1.6804	-1.9231	0.0058	-0.0270	-0.0375	0.3131	0.0561	0.2570	-1.1444
11	12.58	0.0	2.0777	-2.3648	0.0049	-0.0360	-0.0377	0.3258	0.0547	0.2711	-1.1382
12	14.64	0.0	2.4969	-2.9362	0.0042	-0.0449	-0.0420	0.3366	0.0549	0.2817	-1.1759
13	16.71	0.0	2.9916	-3.6343	0.0138	-0.0443	-0.0382	0.3487	0.0541	0.2946	-1.2148
14	18.75	0.0	3.5089	-4.4441	0.0135	-0.0732	-0.0385	0.3601	0.0535	0.3066	-1.2665
15	20.82	0.0	4.0740	-5.3888	0.0133	-0.0819	-0.0388	0.3779	0.0512	0.3267	-1.3227
16	0.30	0.0	0.0268	-0.0130	-0.0112	0.0023	-0.0368	0.2778	0.0535	0.2243	-0.4840
17	0.29	0.0	0.0268	-0.0130	-0.0112	0.0023	-0.0368	0.2779	0.0541	0.2238	-0.4840

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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	MACH	RX10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4	11	2.00	3.0	0.0	02-0F35	0.0	0	0	0	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAN	CAP	NCP
1	-4.23	0.0	-0.8261	1.5535	-0.0026	-0.0203	-0.0552	0.3919	0.1064	0.2855	-1.8806
2	-7.16	0.0	-0.4395	0.8539	-0.0023	-0.0147	-0.0553	0.3851	0.1023	0.2828	-1.9428
3	-1.13	0.0	-0.2318	0.4767	-0.0021	-0.0092	-0.0553	0.3847	0.1019	0.2828	-2.0564
4	-0.11	0.0	-0.0392	0.1024	0.0039	-0.0152	-0.0555	0.3831	0.1018	0.2813	-2.6114
5	0.92	0.0	0.1470	-0.2656	0.0040	-0.0204	-0.0580	0.3833	0.1019	0.2814	-1.8067
6	1.96	0.0	0.3323	-0.4453	0.0044	-0.0150	-0.0556	0.3834	0.1014	0.2820	-1.9419
7	4.01	0.0	0.7204	-1.3593	0.0107	-0.0210	-0.0509	0.3873	0.1043	0.2830	-1.8869
8	6.08	0.0	1.1092	-2.0358	0.0109	-0.0264	-0.0462	0.3953	0.1109	0.2844	-1.8353
9	8.18	0.0	1.5455	-2.6980	0.0049	-0.0148	-0.0438	0.4026	0.1169	0.2857	-1.7457
10	10.28	0.0	2.0469	-3.3645	0.0044	-0.0148	-0.0416	0.4066	0.1202	0.2864	-1.6437
11	12.39	0.0	2.5913	-4.0301	0.0034	-0.0148	-0.0418	0.4049	0.1150	0.2899	-1.5553
12	14.54	0.0	3.1538	-4.6903	0.0083	-0.0312	-0.0396	0.4066	0.1137	0.2929	-1.4872
13	16.66	0.0	3.7131	-5.3881	0.0247	-0.0598	-0.0423	0.4115	0.1159	0.2956	-1.4511
14	18.78	0.0	4.3088	-6.1529	0.0247	-0.0765	-0.0403	0.4161	0.1147	0.3014	-1.4288
15	20.91	0.0	4.9235	-6.9966	0.0404	-0.1098	-0.0383	0.4206	0.1130	0.3076	-1.4211
16	-0.10	0.0	-0.0231	0.0984	0.0156	-0.0273	-0.0554	0.3824	0.1028	0.2796	-4.2688
17	-0.11	0.0	-0.0385	0.1141	0.0098	-0.0159	-0.0553	0.3822	0.1024	0.2798	-2.9647
18	-0.11	0.0	-0.0234	0.0987	0.0098	-0.0159	-0.0553	0.3822	0.1023	0.2799	-4.2195

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 12 2.36 3.0 0.0 020F35 0.0 0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAP	ICP
1	-4.06	0.0	-0.8941	2.6342	-0.0193	0.0315	-0.0608	0.4310	0.1275	0.3035	-2.2751
2	-2.00	0.0	-0.4677	1.1401	-0.0185	0.0364	-0.0587	0.4272	0.1248	0.3024	-2.4377
3	-0.97	0.0	-0.2614	0.724	-0.0079	0.0164	-0.0611	0.4280	0.1249	0.3031	-2.5721
4	0.05	0.0	-0.0431	0.1933	-0.0075	0.0118	-0.0614	0.4305	0.1251	0.3054	-4.4855
5	1.08	0.0	0.1436	-0.2436	-0.0173	0.0274	-0.0592	0.4285	0.1245	0.3040	-1.6967
6	2.12	0.0	0.3571	-0.7078	-0.0221	0.0377	-0.0592	0.4280	0.1246	0.3034	-1.9820
7	4.18	0.0	0.7854	-1.6271	-0.0212	0.0425	-0.0551	0.4295	0.1274	0.3021	-2.0717
8	6.25	0.0	1.2139	-2.5002	-0.0102	0.0223	-0.0510	0.4415	0.1394	0.3021	-2.9596
9	8.34	0.0	1.6722	-3.3155	-0.0151	0.0230	-0.0469	0.4514	0.1485	0.3029	-1.9827
10	10.46	0.0	2.2008	-4.0903	-0.0206	0.0390	-0.0448	0.4574	0.1536	0.3038	-1.8506
11	12.59	0.01	2.7741	-4.7962	-0.0217	0.0193	-0.0452	0.4554	0.1507	0.3047	-1.7289
12	14.76	0.01	3.3924	-5.5398	-0.0177	0.0046	-0.0435	0.4478	0.1456	0.3022	-1.6330
13	16.92	0.01	4.0291	-6.3355	-0.0136	-0.0052	-0.0394	0.4482	0.1489	0.2993	-1.5724
14	19.08	0.01	4.6941	-7.1616	-0.0045	-0.0250	-0.0397	0.4509	0.1516	0.2993	-1.5257
15	21.25	0.01	5.3780	-8.0216	-0.0107	-0.0148	-0.0356	0.4502	0.1486	0.3016	-1.4916
16	0.05	0.01	-0.0579	0.1976	-0.0281	0.0428	-0.0613	0.4298	0.1249	0.3049	-3.4131
17	0.05	0.01	-0.0578	0.1973	-0.0281	0.0428	-0.0612	0.4306	0.1256	0.3050	-3.4137
18	0.05	0.01	-0.0578	0.1973	-0.0282	0.0381	-0.0613	0.4308	0.1256	0.3052	-3.4137

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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	MACH	RX10-B	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4	13	3.65	3.0	0.0	82W0F35	0.0	0	0	0	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-4.14	0.0	-0.6587	1.0568	0.0142	-0.0152	-0.0414	0.3100	0.0697	0.2403	-1.6044
2	-2.08	0.0	-0.3147	0.5696	0.0140	-0.0151	-0.0415	0.3049	0.0697	0.2352	-1.8099
3	-1.06	0.0	-0.1534	0.3201	0.0139	-0.0150	-0.0415	0.3028	0.0691	0.2337	-2.0869
4	-0.04	0.0	0.0076	0.0708	0.0139	-0.0150	-0.0416	0.3030	0.0691	0.2339	9.0754
5	0.97	0.01	0.1364	-0.1622	-0.0641	0.0660	-0.0413	0.3068	0.0697	0.2371	-1.1888
6	2.01	0.0	0.3130	-0.4102	0.0061	0.0004	-0.0416	0.3095	0.0697	0.2390	-1.3106
7	4.05	0.0	0.6394	-0.8963	0.0138	-0.0077	-0.0385	0.3162	0.0697	0.2465	-1.4017
8	6.11	0.0	0.9672	-1.3335	0.0136	-0.0077	-0.0354	0.3237	0.0697	0.2540	-1.3707
9	8.17	0.0	1.3551	-1.8162	0.0129	-0.0075	-0.0387	0.3309	0.0721	0.2588	-1.3393
10	10.25	0.0	1.7672	-2.2538	0.0120	-0.0073	-0.0388	0.3350	0.0729	0.2621	-1.2753
11	12.32	0.0	2.1985	-2.7227	0.0188	-0.0224	-0.0422	0.3427	0.0723	0.2704	-1.2385
12	14.41	0.0	2.6478	-3.2607	0.0256	-0.0445	-0.0426	0.3535	0.0711	0.2824	-1.2315
13	16.49	0.0	3.1547	-3.9301	0.0248	-0.0586	-0.0429	0.3658	0.0706	0.2952	-1.2458
14	18.57	0.0	3.6810	-4.6548	0.0318	-0.0879	-0.0433	0.3792	0.0690	0.3102	-1.2646
15	20.66	0.0	4.2845	-5.5090	0.0234	-0.0722	-0.0434	0.3933	0.0669	0.3264	-1.2858
16	-0.04	0.0	-0.0132	0.0755	0.0062	-0.0069	-0.0415	0.3032	0.0692	0.2340	-5.7218

LANGLEY RESEARCH CENTER(NASA)

UNITARY PLAN WIND TUNNEL(UPWT)

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MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6				PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4 14 3.95 3.0				0.0	0200F33	0.0	0	0	0	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-4.12	0.0	-0.5648	0.0299	0.0074	-0.0222	-0.0160	0.3473	0.0681	0.2792	-1.4590
2	-2.00	0.0	-0.2916	0.4443	0.0072	-0.0221	-0.0161	0.3451	0.0682	0.2769	-1.5235
3	-1.06	0.0	-0.1335	0.7316	0.0070	-0.0220	-0.0161	0.3454	0.0676	0.2778	-1.7351
4	-0.05	0.0	-0.0160	0.0439	0.0070	-0.0220	-0.0162	0.3484	0.0676	0.2800	-2.7462
5	0.97	0.0	0.1419	-0.1683	-0.0010	-0.0066	-0.0193	0.3508	0.0662	0.2846	-1.1859
6	2.00	0.0	0.7400	-0.3399	-0.0011	-0.0066	-0.0193	0.3531	0.0671	0.2860	-1.3073
7	4.05	0.0	0.5769	-0.7490	-0.0015	-0.0064	-0.0194	0.3555	0.0682	0.2873	-1.2983
8	6.11	0.0	0.9464	-1.2920	-0.0017	0.0009	-0.0226	0.3618	0.0677	0.2941	-1.3651
9	8.16	0.0	1.3522	-1.8693	-0.0021	0.0011	-0.0227	0.3733	0.0668	0.3045	-1.3824
10	10.24	0.0	1.7800	-2.4186	-0.0023	0.0009	-0.0261	0.3819	0.0696	0.3123	-1.3588
11	12.32	0.0	2.2458	-3.0573	0.0004	-0.0045	-0.0263	0.3967	0.0696	0.3271	-1.3614
12	14.38	0.0	2.7113	-3.7292	0.0108	-0.0205	-0.0329	0.4101	0.0696	0.3405	-1.3754
13	16.47	0.0	3.2489	-4.5309	0.0091	-0.0261	-0.0331	0.4263	0.0677	0.3586	-1.3946
14	18.55	0.0	3.8195	-5.5020	0.0062	-0.0300	-0.0301	0.4398	0.0667	0.3731	-1.4467
15	20.63	0.0	4.4475	-6.6003	-0.0044	-0.0146	-0.0303	0.4569	0.0657	0.3912	-1.4840
16	-0.05	0.0	-0.0364	0.0648	-0.0087	-0.0057	-0.0193	0.3455	0.0672	0.2783	-1.7790
17	-0.06	0.0	-0.0371	0.0488	-0.0086	-0.0057	-0.0193	0.3482	0.0671	0.2811	-1.3149



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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RATIO-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
4 15 4.63 3.0 0.0 02W0F33 0.0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	XCP
1	-3.78	0.0	-0.5371	0.5435	-0.0195	-0.0062	-0.0205	0.3272	0.0535	0.2737	-1.0119
2	-1.72	0.0	-0.2571	0.2348	-0.0200	-0.0062	-0.0206	0.3264	0.0535	0.2729	-0.9132
3	-0.71	0.0	-0.1294	0.1038	-0.0203	-0.0062	-0.0206	0.3262	0.0535	0.2727	-0.8020
4	1.33	0.0	0.1259	-0.1582	-0.0208	-0.0062	-0.0207	0.3282	0.0535	0.2747	-1.2568
5	2.32	0.0	0.2535	-0.2891	-0.0211	-0.0062	-0.0207	0.3281	0.0535	0.2746	-1.1406
6	4.38	0.0	0.5591	-0.6241	-0.0217	-0.0060	-0.0208	0.3327	0.0535	0.2792	-1.1162
7	6.42	0.01	0.8823	-1.0366	-0.0221	-0.0059	-0.0209	0.3360	0.0535	0.2825	-1.1749
8	8.47	0.01	1.2513	-1.5134	-0.0328	0.0047	-0.0291	0.3462	0.0535	0.2927	-1.2094
9	10.52	0.01	1.6462	-2.0168	-0.0230	-0.0054	-0.0293	0.3596	0.0543	0.3053	-1.2252
10	12.56	0.01	2.0385	-2.5820	-0.0193	-0.0190	-0.0295	0.3752	0.0543	0.3209	-1.2664
11	14.64	0.01	2.5045	-3.2872	-0.0153	-0.0233	-0.0256	0.3877	0.0543	0.3334	-1.3123
12	16.67	0.01	3.0114	-4.1688	-0.0162	-0.0128	-0.0256	0.4030	0.0543	0.3487	-1.3643
13	18.73	0.01	3.5878	-5.2318	-0.0196	-0.0086	-0.0258	0.4160	0.0528	0.3632	-1.4582
14	20.80	0.01	4.2066	-6.4429	-0.0228	-0.0043	-0.0300	0.4332	0.0533	0.3799	-1.5316
15	0.29	0.01	-0.0277	-0.0006	-0.0305	-0.0050	-0.0207	0.3258	0.0529	0.2729	0.0214

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LANGLEY RESEARCH CENTER(NASA) UNITARY PLAN WIND TUNNEL(UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6 PWI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
4 16 2.36 3.0 0.0 B2W0F33 0.0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-4.05	0.01	-0.8609	1.9334	-0.0290	0.0179	-0.0378	0.4931	0.1277	0.3654	-2.2480
2	-1.99	0.01	-0.4669	1.0616	-0.0179	-0.0022	-0.0360	0.4844	0.1231	0.3613	-2.2737
3	-0.97	0.01	-0.2644	0.6214	-0.0228	0.0081	-0.0383	0.4845	0.1226	0.3619	-2.3501
4	0.05	0.01	-0.0728	0.2001	-0.0274	0.0183	-0.0359	0.4824	0.1218	0.3606	-2.7480
5	1.08	0.01	0.1308	-0.2423	-0.0166	0.0077	-0.0340	0.4821	0.1203	0.3618	-1.8527
6	2.09	0.01	0.3217	-0.6610	-0.0216	0.0133	-0.0383	0.4820	0.1208	0.3612	-2.0546
7	4.16	0.01	0.7296	-1.5576	-0.0259	0.0283	-0.0404	0.4872	0.1240	0.3632	-2.1379
8	6.25	0.01	1.1715	-2.5111	-0.0355	0.0490	-0.0446	0.5022	0.1369	0.3653	-2.1435
9	8.31	0.0	1.6652	-3.5134	-0.0246	0.0481	-0.0446	0.5132	0.1478	0.3654	-2.1102
10	10.42	0.0	2.2649	-4.6033	-0.0341	0.0776	-0.0445	0.5178	0.1527	0.3651	-2.0324
11	12.55	0.0	2.9251	-5.6684	-0.0272	0.0561	-0.0470	0.5168	0.1543	0.3625	-1.9378
12	14.69	0.0	3.5854	-6.6993	-0.0253	0.0541	-0.0450	0.5091	0.1528	0.3563	-1.8685
13	16.85	0.01	4.3013	-7.6429	-0.0271	0.0463	-0.0453	0.5067	0.1498	0.3569	-1.8234
14	19.01	0.0	5.0224	-8.9513	-0.0090	0.0082	-0.0414	0.5061	0.1468	0.3593	-1.7823
15	21.16	0.0	5.7764	-10.1354	-0.0212	0.0542	-0.0305	0.5080	0.1463	0.3617	-1.7546
16	0.05	0.01	-0.0584	0.1967	-0.0121	-0.0024	-0.0382	0.4816	0.1219	0.3597	-3.3688

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 17 2.86 3.0 0.0 H2O F33 0.0 0 0 0 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAP	XCP
1	-4.20	0.0	-0.7254	1.3862	0.0038	-0.0377	-0.0362	0.4367	0.1027	0.3340	-1.9110
2	-2.15	0.0	-0.3618	0.6477	0.0043	-0.0372	-0.0315	0.4296	0.0996	0.3300	-1.9283
3	-1.12	0.0	-0.1675	0.3673	-0.0073	-0.0199	-0.0315	0.4295	0.0988	0.3307	-1.9589
4	-0.11	0.0	-0.0123	0.0359	-0.0012	-0.0261	-0.0316	0.4312	0.0996	0.3316	-2.9188
5	0.91	0.0	0.1478	-0.2797	0.0047	-0.0319	-0.0340	0.4305	0.0998	0.3307	-1.8925
6	1.95	0.0	0.3377	-0.6260	0.0049	-0.0319	-0.0341	0.4301	0.0993	0.3308	-1.8537
7	4.02	0.0	0.7015	-1.3148	-0.0006	-0.0148	-0.0340	0.4349	0.1008	0.3341	-1.8742
8	6.10	0.0	1.1079	-2.0574	-0.0005	-0.0145	-0.0390	0.4440	0.1079	0.3361	-1.8578
9	8.15	0.0	1.5570	-2.8422	-0.0003	-0.0090	-0.0391	0.4521	0.1131	0.3390	-1.8254
10	10.25	0.0	2.1223	-3.7818	0.0	-0.0090	-0.0392	0.4550	0.1143	0.3407	-1.7819
11	12.36	0.0	2.7067	-4.6532	0.0021	-0.0090	-0.0392	0.4579	0.1139	0.3440	-1.7191
12	14.49	0.0	3.2946	-5.5303	0.0100	-0.0198	-0.0395	0.4612	0.1110	0.3502	-1.6786
13	16.60	0.0	3.8898	-6.4039	0.0197	-0.0464	-0.0399	0.4628	0.1092	0.3536	-1.6443
14	18.75	0.0	4.5274	-7.3860	0.0171	-0.0330	-0.0399	0.4669	0.1081	0.3568	-1.6314
15	20.85	0.0	5.1946	-8.4759	0.0144	-0.0628	-0.0380	0.4730	0.1062	0.3600	-1.6317
16	-0.10	0.0	-0.0112	0.0475	0.0104	-0.0381	-0.0340	0.4310	0.1006	0.3304	-4.2454

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART WACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
4 18 2.36 3.0 0.0 B2WOF34 0.0 0 -20 0 -20 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAP	XCP
1	-3.89	0.01	-2.8563	10.6325	-0.0018	-0.1103	-0.0411	1.3460	0.1456	1.2004	-3.7225
2	-1.82	0.01	-2.4544	9.7546	0.0093	-0.1158	-0.0392	1.2582	0.1478	1.1104	-3.9743
3	-0.77	0.01	-2.2467	9.3033	0.0147	-0.1255	-0.0437	1.2151	0.1486	1.0663	-4.1409
4	0.22	0.01	-2.0544	8.8569	0.0049	-0.1051	-0.0415	1.1725	0.1504	1.0221	-4.3112
5	1.25	0.01	-1.8387	8.3713	0.0105	-0.1197	-0.0418	1.1271	0.1515	0.9756	-4.5529
6	2.29	0.01	-1.6220	7.8791	0.0006	-0.0943	-0.0438	1.0790	0.1539	0.9251	-4.8576
7	4.35	0.01	-1.1893	6.9140	0.0065	-0.0990	-0.0483	0.9856	0.1568	0.8288	-5.8135
8	6.41	0.01	-0.7106	5.8586	0.0074	-0.0985	-0.0487	0.8936	0.1619	0.7317	-8.2446
9	8.49	0.01	-0.2040	4.8470	0.0029	-0.0832	-0.0466	0.7994	0.1616	0.6378	-23.7596
10	10.60	0.01	0.3979	3.8092	-0.0020	-0.0680	-0.0467	0.7111	0.1570	0.5541	9.5732
11	12.75	0.01	1.1044	2.6140	0.0085	-0.0687	-0.0448	0.6057	0.1472	0.4585	2.3669
12	14.91	0.0	1.8012	1.5106	0.0082	-0.0633	-0.0492	0.5198	0.1492	0.3706	0.8386
13	17.06	0.0	2.4457	0.6831	0.0074	-0.0535	-0.0471	0.4632	0.1497	0.3135	0.2793
14	19.23	0.0	3.0593	0.0266	0.0060	-0.0386	-0.0555	0.4193	0.1528	0.2665	0.0087
15	21.41	0.0	3.6869	-0.6124	0.0146	-0.0630	-0.0601	0.3763	0.1541	0.2222	-0.1661
16	0.21	0.01	-2.0642	8.8568	0.0048	-0.1095	-0.0458	1.1709	0.1487	1.0222	-4.2907
17	0.21	0.01	-2.0646	8.8568	-0.0055	-0.0989	-0.0457	1.1724	0.1492	1.0232	-4.2898

## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART MACH RX10-6				PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4 19 2.86 3.0				0.0	82W0F34	0.9	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	ACP
1	-4.11	0.01	-2.5628	9.1270	0.0039	-0.1338	-0.0524	1.1953	0.1087	1.0866	-3.5613
2	-2.05	0.01	-2.1666	8.2992	0.0046	-0.1281	-0.0501	1.1086	0.1095	0.9991	-3.8305
3	-1.01	0.01	-1.9610	7.8578	0.0049	-0.1278	-0.0527	1.0626	0.1107	0.9519	-4.0071
4	0.0	0.01	-1.7579	7.4119	0.0053	-0.1222	-0.0552	1.0178	0.1103	0.9075	-4.2163
5	1.02	0.01	-1.5537	6.9559	0.0057	-0.1219	-0.0528	0.9702	0.1111	0.8591	-4.4770
6	2.05	0.01	-1.3377	6.4995	0.0060	-0.1162	-0.0552	0.9247	0.1118	0.8129	-4.8587
7	4.10	0.01	-0.9337	5.6480	0.0069	-0.1045	-0.0529	0.8357	0.1141	0.7216	-6.0491
8	6.17	0.01	-0.4744	4.7247	-0.0042	-0.0874	-0.0482	0.7518	0.1163	0.6355	-9.9593
9	8.26	0.01	0.0569	3.6993	-0.0035	-0.0764	-0.0435	0.6591	0.1173	0.5418	65.8145
10	10.34	0.01	0.6502	2.6504	-0.0032	-0.0815	-0.0414	0.5775	0.1222	0.4653	4.0763
11	12.47	0.01	1.2222	1.8606	0.0020	-0.0617	-0.0439	0.5238	0.1083	0.4155	1.5223
12	14.63	0.01	1.7435	1.3293	0.0067	-0.0822	-0.0465	0.4904	0.1107	0.3797	0.7624
13	16.73	0.01	2.2300	0.9087	0.0109	-0.0984	-0.0539	0.4651	0.1106	0.3545	0.4066
14	18.88	0.01	2.7486	0.4811	0.0092	-0.0872	-0.0610	0.4413	0.1129	0.3284	0.1759
15	21.00	0.01	3.2818	-0.0091	0.0136	-0.0928	-0.0660	0.4187	0.1132	0.3055	-0.0028
16	0.01	0.01	-1.7696	7.4269	0.0054	-0.1168	-0.0526	1.0176	0.1111	0.9065	-4.1960

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 20 3.95 3.0 0.0 B2=0F34 0.0 0 -20 0 -20 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP
1	-4.09	0.0	-2.0078	7.0645	0.0314	-0.1212	-0.0477	0.9518	0.0688	0.6830	-3.5185
2	-2.04	0.0	-1.6326	6.3020	0.0321	-0.1139	-0.0446	0.8723	0.0680	0.8043	-3.8601
3	-1.02	0.0	-1.4549	5.9309	0.0324	-0.1137	-0.0447	0.8327	0.0685	0.7642	-4.0765
4	0.0	0.0	-1.2593	5.5086	0.0250	-0.0983	-0.0447	0.7912	0.0680	0.7232	-4.3743
5	1.02	0.0	-1.0658	5.1285	0.0253	-0.0910	-0.0447	0.7511	0.0681	0.6830	-4.6110
6	2.05	0.0	-0.8725	4.7486	0.0256	-0.0910	-0.0416	0.7108	0.0684	0.6424	-5.4425
7	4.09	0.0	-0.4867	3.9561	0.0262	-0.0835	-0.0416	0.6310	0.0685	0.5625	-6.1283
8	6.13	0.0	-0.0459	3.1196	0.0188	-0.0752	-0.0386	0.5561	0.0695	0.4866	-67.9659
9	8.20	0.0	0.3747	2.4982	0.0185	-0.0676	-0.0418	0.5109	0.0687	0.4422	6.5794
10	10.26	0.0	0.7535	2.1485	0.0254	-0.0757	-0.0420	0.4890	0.0653	0.4237	2.0513
11	12.35	0.0	1.1322	1.9285	0.0239	-0.0683	-0.0483	0.4822	0.0641	0.4181	1.7033
12	14.43	0.0	1.4912	1.7454	0.0224	-0.0681	-0.0484	0.4755	0.0636	0.4119	1.1704
13	16.54	0.0	1.8656	1.5310	0.0206	-0.0749	-0.0549	0.4757	0.0630	0.4127	0.6119
14	18.63	0.0	2.2777	1.3034	0.0191	-0.0748	-0.0550	0.4744	0.0653	0.4091	0.5722
15	20.74	0.0	2.7503	0.9934	0.0251	-0.0825	-0.0583	0.4729	0.0661	0.4068	0.3612
16	-0.01	0.0	-1.3001	5.5504	0.0094	-0.0821	-0.0446	0.7912	0.0694	0.7218	-4.2692
17	-0.02	0.0	-1.3195	5.5871	0.0094	-0.0821	-0.0446	0.7936	0.0689	0.7247	-4.2342

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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 21 4.63 3.0 0.0 0.200F34 0.0 0 -20 0 -20 FIXED											
POINT	ALPHA	BETA	CN	CLM	CV	CLN	CLL	CA	CAB	CAF	KCP
1	-3.75	0.01	-1.8331	6.1250	-0.0129	-0.0646	-0.0446	0.8465	0.0528	0.7937	-3.3413
2	-1.70	0.01	-1.4762	5.4269	-0.0123	-0.0553	-0.0406	0.7727	0.0534	0.7193	-3.6763
3	-0.68	0.01	-1.2724	5.0412	-0.0121	-0.0552	-0.0407	0.7330	0.0534	0.6796	-3.9620
4	0.31	0.01	-1.0939	4.7036	-0.0119	-0.0551	-0.0408	0.6969	0.0534	0.6435	-4.2998
5	1.32	0.01	-0.9202	4.3793	-0.0118	-0.0550	-0.0408	0.6595	0.0541	0.6054	-4.7591
6	2.34	0.01	-0.7473	4.0344	-0.0116	-0.0548	-0.0409	0.6222	0.0535	0.5687	-5.3986
7	4.38	0.01	-0.3491	3.3338	-0.0113	-0.0548	-0.0370	0.5474	0.0546	0.4928	-9.5496
8	6.41	0.01	0.0204	2.7222	-0.0114	-0.0544	-0.0412	0.4930	0.0547	0.4383	133.4404
9	8.46	0.01	0.3680	2.3657	-0.0122	-0.0543	-0.0413	0.4711	0.0541	0.4170	6.4285
10	10.53	0.01	0.6948	2.1594	-0.0133	-0.0543	-0.0413	0.4631	0.0516	0.4115	3.1080
11	12.60	0.01	0.9992	2.0621	-0.0148	-0.0542	-0.0414	0.4636	0.0478	0.4158	2.0638
12	14.66	0.01	1.3287	1.9177	-0.0164	-0.0631	-0.0456	0.4620	0.0447	0.4173	1.4433
13	16.70	0.01	1.6768	1.7166	-0.0078	-0.0733	-0.0458	0.4647	0.0466	0.4181	1.0238
14	18.76	0.01	2.0478	1.4947	-0.0092	-0.0639	-0.0498	0.4671	0.0503	0.4168	0.7299
15	0.30	0.01	-1.1194	4.7297	-0.0119	-0.0551	-0.0408	0.6941	0.0529	0.6412	-4.2252

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
4 22 2.36 3.0 0.0 B2WOF35 0.0 0 -20 0 -20 FIXED											
POINT	ALPHA	BETA	CW	CLW	CY	CLN	CLL	CA	CAB	CAF	KCP
1	-3.97	0.01	-2.6192	9.2953	0.0120	-0.1014	-0.0372	1.1887	0.1493	1.0394	-3.5489
2	-1.87	0.01	-2.2311	8.5578	0.0069	-0.0953	-0.0458	1.1093	0.1498	0.9595	-3.8357
3	-0.84	0.01	-2.0503	8.1890	0.0071	-0.0950	-0.0459	1.0720	0.1518	0.9202	-3.9941
4	0.16	0.01	-1.8587	7.7915	0.0074	-0.0900	-0.0459	1.0346	0.1532	0.8814	-4.1919
5	1.21	0.01	-1.6675	7.3719	0.0128	-0.1046	-0.0483	0.9921	0.1549	0.8372	-4.4209
6	2.23	0.01	-1.4626	6.9474	0.0079	-0.0942	-0.0504	0.9556	0.1573	0.7983	-4.7509
7	4.28	0.01	-1.0666	6.1266	0.0033	-0.0836	-0.0527	0.8782	0.1599	0.7183	-5.7440
8	6.39	0.01	-0.5965	5.2136	0.0090	-0.0839	-0.0529	0.7967	0.1606	0.6361	-8.7402
9	8.47	0.01	-0.1250	4.3693	0.0039	-0.0828	-0.0531	0.7161	0.1573	0.5588	-34.9544
10	10.60	0.01	0.4667	3.4417	0.0037	-0.0775	-0.0553	0.6392	0.1519	0.4673	7.3746
11	12.75	0.01	1.1371	2.4005	0.0186	-0.1071	-0.0643	0.5585	0.1459	0.4126	2.1111
12	14.89	0.01	1.8087	1.4167	0.0128	-0.1012	-0.0666	0.4916	0.1510	0.3406	0.7832
13	17.05	0.01	2.4562	0.5336	0.0122	-0.0914	-0.0688	0.4328	0.1510	0.2818	0.2171
14	19.22	0.01	3.0993	-0.1552	0.0209	-0.1205	-0.0692	0.3878	0.1531	0.2347	-0.0501
15	21.40	0.01	3.7178	-0.7628	0.0296	-0.1451	-0.0674	0.3483	0.1522	0.1961	-0.2052



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LANGLEY RESEARCH CENTER(NASA)

UNITARY PLAN WIND TUNNEL(UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 23 2.66 3.0 0.0 02W0F35 0.0 0 -20 0 -20 FIXED											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-4.13	0.0	-2.2500	7.9216	0.0419	-0.1376	-0.0453	1.0625	0.1078	0.9547	-3.5207
2	-2.07	0.0	-1.8981	7.2643	0.0420	-0.1424	-0.0455	0.9872	0.1093	0.8779	-3.8272
3	-1.03	0.0	-1.6938	6.9022	0.0422	-0.1370	-0.0455	0.9466	0.1100	0.8366	-4.0768
4	-0.01	0.0	-1.5040	6.5299	0.0481	-0.1426	-0.0480	0.9080	0.1102	0.7978	-4.3417
5	1.02	0.0	-1.3153	6.1594	0.0483	-0.1424	-0.0505	0.8694	0.1119	0.7575	-4.6829
6	2.05	0.0	-1.1283	5.7970	0.0485	-0.1474	-0.0506	0.8318	0.1129	0.7189	-5.1378
7	4.11	0.0	-0.7367	5.0590	0.0432	-0.1309	-0.0483	0.7570	0.1145	0.6425	-6.8871
8	6.18	0.0	-0.3175	4.2696	0.0435	-0.1250	-0.0484	0.6839	0.1174	0.5665	-13.4476
9	8.27	0.0	0.1888	3.4109	0.0435	-0.1246	-0.0466	0.6082	0.1154	0.4928	18.0665
10	10.37	0.0	0.7563	2.5030	0.0492	-0.1358	-0.0489	0.5398	0.1093	0.4305	3.3096
11	12.49	0.0	1.3407	1.6544	0.0485	-0.1351	-0.0562	0.4796	0.1042	0.3754	1.2340
12	14.61	0.0	1.8449	1.1424	0.0531	-0.1408	-0.0612	0.4496	0.1052	0.3444	0.6192
13	16.74	0.0	2.3536	0.6898	0.0632	-0.1633	-0.0687	0.4241	0.1079	0.3162	0.2931
14	18.88	0.0	2.8762	0.2333	0.0731	-0.1910	-0.0738	0.3999	0.1094	0.2905	0.0811
15	21.02	0.0	3.4186	-0.2507	0.0833	-0.2193	-0.0743	0.3782	0.1101	0.2681	-0.0733
16	0.0	0.0	-1.5066	6.5420	0.0541	-0.1491	-0.0481	0.9079	0.1107	0.7972	-4.3422

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-4											
4 24 3.95 3.0											
PMI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
0.0 02u0F35 0.0 0 -20 0 -20 FIXED											
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	KCP
1	-4.08	0.0	-1.8140	6.2483	0.0571	-0.1240	-0.0382	0.0584	0.0639	0.7945	-3.4448
2	-2.04	0.0	-1.4824	5.6724	0.0494	-0.1158	-0.0383	0.7948	0.0630	0.7318	-3.8265
3	-1.02	0.0	-1.3077	5.3417	0.0495	-0.1156	-0.0384	0.7612	0.0636	0.6976	-4.0848
4	-0.01	0.0	-1.1324	5.0273	0.0496	-0.1155	-0.0385	0.7249	0.0645	0.6606	-4.4395
5	1.01	0.0	-0.9576	4.6965	0.0498	-0.1154	-0.0385	0.6911	0.0646	0.6265	-4.9045
6	2.04	0.0	-0.7835	4.3496	0.0501	-0.1081	-0.0385	0.6547	0.0641	0.5906	-5.5516
7	4.09	0.0	-0.3921	3.6735	0.0502	-0.1006	-0.0385	0.5828	0.0651	0.5177	-9.3687
8	6.14	-0.01	0.0106	2.9243	0.0505	-0.1003	-0.0387	0.5128	0.0646	0.4482	275.8750
9	8.20	0.0	0.4352	2.2672	0.0502	-0.1000	-0.0420	0.4694	0.0637	0.4057	5.2558
10	10.27	0.0	0.8101	1.9423	0.0490	-0.1070	-0.0487	0.4474	0.0602	0.3872	2.3976
11	12.35	0.0	1.1887	1.7128	0.0475	-0.1067	-0.0551	0.4411	0.0583	0.3828	1.4400
12	14.44	0.0	1.5489	1.5354	0.0535	-0.1360	-0.0587	0.4389	0.0583	0.3806	0.9913
13	16.53	0.0	1.9498	1.3159	0.0595	-0.1583	-0.0622	0.4364	0.0583	0.3781	0.6749
14	18.61	0.0	2.3704	1.0591	0.0655	-0.1476	-0.0658	0.4364	0.0601	0.3763	0.4468
15	20.71	0.0	2.8110	0.7819	0.0714	-0.2098	-0.0693	0.4337	0.0607	0.3730	0.2781
16	-0.02	0.0	-1.1734	5.0524	0.0420	-0.1075	-0.0384	0.7253	0.0640	0.6613	-4.3058

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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	MACH	NO	10-6	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4	25	4.63	3.0		0.0	0200F35	0.0	0	-20	0	-20	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP	
1	-3.76	0.0	-1.6220	5.4142	0.0286	-0.0967	-0.0367	0.7663	0.0466	0.7197	-3.3380	
2	-1.71	0.0	-1.7961	4.8623	0.0188	-0.0772	-0.0325	0.7066	0.0466	0.6400	-3.7669	
3	-0.71	0.0	-1.1482	4.6274	0.0189	-0.0772	-0.0326	0.6756	0.0466	0.6290	-4.0302	
4	0.32	0.0	-0.9718	4.3353	0.0187	-0.0768	-0.0367	0.6425	0.0466	0.5959	-4.4611	
5	1.33	0.0	-0.7990	4.0331	0.0190	-0.0770	-0.0328	0.6082	0.0466	0.5616	-5.8476	
6	2.35	0.0	-0.6238	3.7461	0.0188	-0.0768	-0.0369	0.5725	0.0459	0.5266	-6.8052	
7	4.39	0.0	-0.2507	3.0842	0.0190	-0.0766	-0.0370	0.5022	0.0459	0.4563	-12.3025	
8	6.43	0.0	0.1187	2.4875	0.0189	-0.0855	-0.0373	0.4515	0.0453	0.4062	20.9550	
9	8.48	0.0	0.4666	2.1337	0.0179	-0.0944	-0.0416	0.4292	0.0454	0.3838	4.5729	
10	10.53	0.0	0.7680	1.9334	0.0265	-0.1136	-0.0500	0.4236	0.0441	0.3795	2.5174	
11	12.59	0.0	1.0722	1.8234	0.0349	-0.1421	-0.0503	0.4247	0.0398	0.3849	1.7806	
12	14.65	0.0	1.4264	1.6801	0.0331	-0.1509	-0.0545	0.4249	0.0373	0.3876	1.1779	
13	16.71	0.0	1.7583	1.5235	0.0415	-0.1704	-0.0589	0.4264	0.0398	0.3866	0.8664	
14	18.77	0.0	2.1391	1.2911	0.0499	-0.1896	-0.0632	0.4276	0.0434	0.3842	0.6036	
15	20.84	0.0	2.5445	1.0123	0.0483	-0.1892	-0.0715	0.4320	0.0434	0.3886	0.3978	
16	22.90	0.0	-1.0000	4.3465	0.0089	-0.0759	-0.0328	0.6438	0.0459	0.5979	-4.3465	

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LANGLEY RESEARCH CENTER(NASA) UNITARY PLAN WIND TUNNEL(UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART 4ACH RX10-6											
4 26 2.86 3.0 0.0 8240F33 0.0 0 -20 0 -20 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP
1	-4.09	0.01	-2.5968	9.5170	0.0207	-0.1363	-0.0427	1.2399	0.1069	1.1330	-3.6649
2	-2.03	0.01	-2.1668	8.5349	0.0217	-0.1251	-0.0428	1.1365	0.1068	1.0297	-3.9389
3	-0.99	0.01	-1.9512	8.0191	0.0224	-0.1250	-0.0381	1.0869	0.1061	0.9408	-4.1099
4	0.01	0.01	-1.7512	7.5501	0.0170	-0.1133	-0.0405	1.0400	0.1063	0.9337	-4.3114
5	1.03	0.01	-1.5363	7.0527	0.0175	-0.1130	-0.0407	0.9895	0.1059	0.8836	-4.5987
6	2.07	0.01	-1.3204	6.5632	0.0122	-0.1014	-0.0383	0.9413	0.1068	0.8345	-4.9706
7	4.11	0.01	-0.9027	5.6546	0.0131	-0.0903	-0.0359	0.8511	0.1097	0.7414	-6.2641
8	6.18	0.0	-0.4542	4.7315	0.0196	-0.0906	-0.0361	0.7617	0.1120	0.6497	-10.4171
9	8.27	0.0	0.0830	3.6806	0.0202	-0.0902	-0.0363	0.6687	0.1116	0.5571	-44.3443
10	10.35	0.0	0.6953	2.5900	0.0263	-0.0959	-0.0342	0.5898	0.1086	0.4812	3.7250
11	12.47	0.0	1.2665	1.8019	0.0141	-0.0727	-0.0366	0.5321	0.1042	0.4279	1.4228
12	14.60	0.0	1.7702	1.2710	0.0244	-0.0950	-0.0441	0.4998	0.1061	0.3937	0.7180
13	16.74	0.0	2.2897	0.8083	0.0347	-0.0961	-0.0489	0.4746	0.1057	0.3689	0.3530
14	18.87	0.0	2.8066	0.3578	0.0330	-0.1064	-0.0516	0.4509	0.1080	0.3429	0.1275
15	21.01	0.0	3.3523	-0.1596	0.0373	-0.1174	-0.0542	0.4279	0.1089	0.3190	-0.0476
16	0.02	0.0	-1.7328	7.5358	0.0227	-0.1136	-0.0428	1.0383	0.1064	0.9319	-4.3489

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
4 27 2.36 2.0 -90.0 62.0 OF33 0.0 20 0 20 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	KCP
1	-3.92	-0.01	-3.0451	11.3390	0.0958	-0.1364	-0.0367	1.4386	0.1451	1.2935	-3.7237
2	-1.87	-0.01	-2.6201	10.3846	0.0847	-0.1204	-0.0395	1.3429	0.1462	1.1967	-3.9634
3	-0.85	-0.02	-2.3886	9.8329	0.0877	-0.1206	-0.0448	1.2891	0.1473	1.1418	-4.1166
4	0.17	-0.01	-2.1716	9.3145	0.0723	-0.1188	-0.0402	1.2368	0.1490	1.0878	-4.2892
5	1.17	-0.02	-1.9464	8.7525	0.0813	-0.0917	-0.0428	1.1829	0.1488	1.0341	-4.4967
6	2.19	-0.02	-1.7191	8.1964	0.0892	-0.0969	-0.0420	1.1320	0.1507	0.9813	-4.7678
7	4.24	-0.01	-1.2690	7.1196	0.0641	-0.0994	-0.0458	1.0280	0.1526	0.8754	-5.4104
8	6.27	-0.02	-0.7901	6.6473	0.0853	-0.0831	-0.0462	0.9306	0.1573	0.7733	-7.6538
9	8.33	-0.02	-0.2741	4.9920	0.1056	-0.1335	-0.0490	0.8360	0.1581	0.6779	-10.2122
10	10.41	-0.02	0.3281	3.9000	0.1017	-0.0932	-0.0482	0.7454	0.1547	0.5907	11.8865
11	12.48	-0.02	1.0007	2.7804	0.1001	-0.0893	-0.0502	0.6417	0.1483	0.4934	2.7784
12	14.59	-0.02	1.6665	1.6680	0.0782	-0.0814	-0.0522	0.5542	0.1486	0.4056	1.0009
13	16.68	-0.02	2.3063	0.8067	0.0865	-0.0731	-0.0541	0.4956	0.1510	0.3446	0.3498
14	18.79	-0.02	2.9072	0.1641	0.0772	-0.0945	-0.0566	0.4527	0.1521	0.3006	0.0565
15	20.90	-0.02	3.5408	-0.5248	0.0907	-0.0301	-0.0562	0.4137	0.1542	0.2595	-0.1482
16	0.14	-0.02	-2.1739	9.3094	0.0924	-0.1227	-0.0468	1.2365	0.1487	1.0878	-4.2823

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6			PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
4	2R	2.06	3.0	-90.0	B2u0F33	8.0	20	0	20	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CV	CLM	CLL	CA	CAB	CAF	KCP
1	-4.10	-0.01	-2.6137	9.5822	0.0000	-0.1516	-0.0432	1.2480	0.1040	1.1440	-3.0662
2	-2.04	-0.02	-2.1809	8.5885	0.0742	-0.1197	-0.0456	1.1471	0.1053	1.0418	-3.9381
3	-0.99	-0.01	-1.9603	8.6779	0.0592	-0.1016	-0.0458	1.0954	0.1068	0.9886	-4.1208
4	0.03	-0.01	-1.7507	7.5813	0.0605	-0.1003	-0.0458	1.0454	0.1084	0.9370	-4.3305
5	1.04	-0.01	-1.5437	7.1072	0.0499	-0.0870	-0.0432	0.9959	0.1093	0.8866	-4.6040
6	2.07	-0.01	-1.3296	6.6212	0.0537	-0.0886	-0.0453	0.9488	0.1104	0.8384	-4.9790
7	4.12	-0.01	-0.9089	5.6981	0.0470	-0.0901	-0.0395	0.8567	0.1123	0.7444	-6.2692
8	6.19	-0.01	-0.4594	4.7630	0.0580	-0.0977	-0.0406	0.7657	0.1158	0.6499	-10.3678
9	8.26	-0.01	0.0705	3.7165	0.0675	-0.1038	-0.0423	0.6739	0.1169	0.5570	52.7160
10	10.35	-0.01	0.6715	2.6455	0.0559	-0.0890	-0.0412	0.5928	0.1146	0.4782	3.9397
11	12.40	-0.01	1.2516	1.8539	0.0517	-0.0846	-0.0461	0.5382	0.1134	0.4248	1.4813
12	14.61	-0.01	1.7512	1.3455	0.0372	-0.0712	-0.0477	0.5047	0.1138	0.3909	0.7603
13	16.75	-0.01	2.2660	0.8909	0.0575	-0.1068	-0.0533	0.4787	0.1125	0.3662	8.3931
14	18.87	-0.01	2.7736	0.4475	0.0490	-0.1005	-0.0612	0.4533	0.1128	0.3405	0.1613
15	21.01	-0.01	3.3063	-0.0470	0.0402	-0.0407	-0.0624	0.4315	0.1128	0.3187	-0.0142
16	0.02	0.0	-1.7374	7.5846	0.0294	-0.0938	-0.0407	1.0427	0.1090	0.9337	-4.3655
17	0.02	0.0	-1.7208	7.5533	0.0284	-0.0927	-0.0434	1.0430	0.1084	0.9346	-4.3894

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6												
4 29 3.95 3.0 -90.0 02W0F33 0.0 20 0 20 0 Fixed												
POINT	ALPHA	BETA	CM	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP	
1	-4.08	0.0	-2.0450	7.2795	0.0145	-0.0563	-0.0274	0.9809	0.0652	0.9157	-3.5597	
2	-2.03	0.0	-1.6624	6.4668	0.0060	-0.0444	-0.0282	0.8977	0.0657	0.8320	-3.8900	
3	-1.02	0.0	-1.4726	6.0509	-0.0081	-0.0284	-0.0286	0.8550	0.0663	0.7887	-4.1890	
4	0.0	0.0	-1.2879	5.6555	-0.0018	-0.0333	-0.0291	0.8150	0.0663	0.7487	-4.3913	
5	1.01	0.0	-1.0959	5.2392	0.0086	-0.0423	-0.0264	0.7732	0.0669	0.7063	-4.7888	
6	2.05	0.0	-0.9117	4.8528	-0.0009	-0.0312	-0.0266	0.7314	0.0689	0.6625	-5.3228	
7	4.15	-0.01	-0.5042	4.0177	0.0190	-0.0320	-0.0274	0.6493	0.0689	0.5804	-7.9684	
8	6.13	-0.01	-0.0905	3.1924	0.0230	-0.0335	-0.0280	0.5748	0.0712	0.5036	-35.2753	
9	8.20	-0.01	0.3310	2.5584	0.0306	-0.0408	-0.0321	0.5290	0.0708	0.4582	7.7292	
10	10.26	-0.01	0.7170	2.2031	0.0584	-0.0707	-0.0330	0.5108	0.0704	0.4404	3.0727	
11	12.34	-0.01	1.0861	1.9666	0.0535	-0.0681	-0.0354	0.5029	0.0695	0.4334	1.8187	
12	14.45	-0.01	1.4643	1.7618	0.0486	-0.0491	-0.0438	0.4975	0.0690	0.4285	1.2032	
13	16.53	-0.01	1.8389	1.5724	0.0505	-0.0540	-0.0457	0.4955	0.0665	0.4298	0.8551	
14	18.61	-0.01	2.2591	1.3134	0.0518	-0.0582	-0.0480	0.4934	0.0665	0.4269	0.5816	
15	20.71	-0.01	2.7261	0.9988	0.0506	-0.0765	-0.0473	0.4907	0.0664	0.4243	0.3644	
16	-0.01	-0.01	-1.3246	5.6939	0.0411	-0.0436	-0.0320	0.8165	0.0673	0.7492	-4.2986	
17	-0.01	-0.01	-1.3247	5.6867	0.0411	-0.0436	-0.0321	0.8164	0.0677	0.7487	-4.2928	

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LANGLEY RESEARCH CENTER(NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 30 4.63 3.0 -90.0 B2=0F33 0.0 20 0 20 0 FIXED											
POINT	ALPHA	BETA	CM	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.75	-0.01	-1.0113	6.2398	0.0754	-0.0468	-0.0250	0.6734	0.0510	0.8216	-3.4450
2	-1.72	-0.01	-1.4530	5.5370	0.0714	-0.0607	-0.0269	0.7998	0.0510	0.7480	-3.8108
3	-0.70	-0.02	-1.2613	5.1653	0.0814	-0.0700	-0.0298	0.7584	0.0521	0.7063	-4.0953
4	0.31	-0.01	-1.0815	4.8110	0.0671	-0.0542	-0.0287	0.7215	0.0532	0.6683	-4.4484
5	1.33	-0.01	-0.9068	4.4680	0.0581	-0.0440	-0.0316	0.6817	0.0532	0.6285	-4.9272
6	2.36	-0.01	-0.7307	4.1193	0.0500	-0.0132	-0.0305	0.6440	0.0539	0.5901	-5.6378
7	4.38	-0.01	-0.3486	3.3907	0.0563	-0.0179	-0.0323	0.5690	0.0550	0.5140	-9.7267
8	6.43	-0.02	0.0321	2.7582	0.0691	-0.0299	-0.0320	0.5151	0.0557	0.4594	85.9257
9	8.48	-0.02	0.3635	2.4167	0.0891	-0.0729	-0.0340	0.4916	0.0557	0.4359	6.6538
10	10.52	-0.02	0.6855	2.2154	0.1076	-0.0939	-0.0374	0.4858	0.0545	0.4313	3.2310
11	12.59	-0.01	0.9996	2.0952	0.0836	-0.0719	-0.0399	0.4839	0.0557	0.4282	2.0961
12	14.65	-0.01	1.3314	1.9584	0.0584	-0.0488	-0.0423	0.4838	0.0520	0.4318	1.4710
13	16.71	-0.01	1.7015	1.7500	0.0647	-0.0579	-0.0454	0.4826	0.0514	0.4312	1.0285
14	18.76	-0.01	2.0780	1.4928	0.0736	-0.0691	-0.0450	0.4843	0.0520	0.4323	0.7184
15	20.85	-0.01	2.4939	1.1671	0.0805	-0.0783	-0.0450	0.4882	0.0520	0.4362	0.4680
16	23.32	-0.01	-1.0928	4.8364	0.0427	-0.0079	-0.0327	0.7196	0.0536	0.6668	-4.4257



## LANGLEY RESEARCH CENTER(NASA)

## UNITARY PLAN WIND TUNNEL(UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

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TEST PART NACH RX10-6											
4 34 2.36 3.0 -90.0 02W0F31 0.0 20 0 20 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-4.03	0.01	-1.8479	5.6893	-0.0169	-0.0113	-0.0136	0.8721	0.1390	0.7331	-3.8788
2	-1.96	0.01	-1.5297	5.2422	-0.0187	-0.0092	-0.0122	0.8053	0.1355	0.6698	-3.4269
3	-0.92	0.01	-1.3734	5.0120	-0.0129	-0.0148	-0.0116	0.7777	0.1382	0.6395	-3.6494
4	0.11	0.01	-1.2064	4.7594	-0.0078	-0.0197	-0.0133	0.7480	0.1395	0.6085	-3.9451
5	1.15	0.0	-1.0370	4.4990	-0.0027	-0.0246	-0.0130	0.7205	0.1432	0.5773	-4.3385
6	2.19	0.01	-0.8830	4.2595	-0.0102	-0.0165	-0.0126	0.6932	0.1461	0.5471	-4.8239
7	4.25	0.01	-0.5530	3.7792	-0.0124	-0.0026	-0.0115	0.6397	0.1503	0.4894	-6.0348
8	6.34	0.0	-0.1840	3.2650	-0.0039	-0.0221	-0.0126	0.5896	0.1576	0.4320	-17.7443
9	8.45	0.0	0.2702	2.7904	-0.0088	0.0046	-0.0128	0.5423	0.1580	0.3843	12.6721
10	10.59	0.0	0.7274	2.2678	-0.0060	-0.0108	-0.0124	0.5028	0.1635	0.3393	3.1177
11	12.76	0.0	1.2911	1.7774	-0.0047	-0.0034	-0.0132	0.4645	0.1616	0.3029	1.3766
12	14.93	0.01	1.8303	1.3803	-0.0156	0.0047	-0.0151	0.4390	0.1617	0.2773	0.7541
13	17.09	0.0	2.3668	1.0360	0.0003	-0.0151	-0.0205	0.4205	0.1623	0.2582	0.4384
14	19.27	0.0	2.9416	0.6408	0.0017	-0.0090	-0.0199	0.3964	0.1613	0.2351	0.2179
15	21.46	0.0	3.5103	0.2977	0.0036	-0.0037	-0.0228	0.3775	0.1613	0.2162	0.0848
16	0.11	0.01	-1.2256	4.7948	-0.0069	-0.0207	-0.0111	0.7503	0.1397	0.6106	-3.9122
17	0.10	0.01	-1.2151	4.7785	-0.0075	-0.0201	-0.0133	0.7502	0.1397	0.6105	-3.9326

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LANGLEY RESEARCH CENTER(NASA) UNITARY PLAN WIND TUNNEL(UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART WACH BX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
4	35	2.66	3.0	-40.0	B2W0F31	0.0	20	0	20	0	FIXED
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	MCP
1	-4.20	0.0	-1.6753	4.9445	0.0165	-0.0398	-0.0156	0.7952	0.1153	0.6799	-2.9510
2	-2.13	0.0	-1.3621	4.5432	0.0167	-0.0401	-0.0154	0.7314	0.1120	0.6194	-3.3354
3	-1.09	0.0	-1.2083	4.3280	0.0093	-0.0325	-0.0167	0.7020	0.1120	0.5900	-3.5019
4	-0.07	0.0	-1.0498	4.1058	0.0168	-0.0400	-0.0157	0.6751	0.1131	0.5620	-3.9110
5	0.96	0.0	-0.8921	3.8775	0.0093	-0.0321	-0.0140	0.6477	0.1151	0.5324	-4.3445
6	2.00	0.0	-0.7344	3.6545	0.0164	-0.0395	-0.0162	0.6218	0.1161	0.5057	-4.9761
7	4.07	0.0	-0.4006	3.2037	0.0159	-0.0386	-0.0140	0.5697	0.1196	0.4501	-7.9973
8	6.15	0.0	-0.0409	2.7442	0.0139	-0.0358	-0.0142	0.5214	0.1231	0.3983	-67.0962
9	8.25	0.0	0.3759	2.2627	0.0095	-0.0329	-0.0140	0.4743	0.1256	0.3487	6.0193
10	10.36	0.0	0.8632	1.7535	0.0026	-0.0144	-0.0134	0.4386	0.1250	0.3136	2.0314
11	12.49	0.0	1.3490	1.3230	0.0103	-0.0243	-0.0166	0.4068	0.1221	0.2847	0.9808
12	14.63	0.0	1.8251	1.0286	0.0046	-0.0091	-0.0204	0.3930	0.1226	0.2704	0.5636
13	16.76	0.0	2.2937	0.7676	0.0141	-0.0222	-0.0215	0.3809	0.1234	0.2575	0.3346
14	18.91	0.0	2.7628	0.5390	0.0232	-0.0477	-0.0220	0.3720	0.1222	0.2498	0.1951
15	21.05	0.0	3.2616	0.2585	0.0164	-0.0444	-0.0230	0.3671	0.1222	0.2449	0.0793
16	-0.06	0.0	-1.0488	4.1068	0.0013	-0.0368	-0.0156	0.6743	0.1142	0.5601	-3.9158

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## LANGLEY RESEARCH CENTER (NASA)

## UNITARY PLAN WIND TUNNEL (UPWT)

## MARTIN MISSILE TAIL EFFECTS DATA

TEST DATA MACH RZ10-6											
4 36 3.95 3.0 -90.0 82W0F31 0.0 20 0 20 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-4.13	0.0	-1.3776	3.8738	-0.0065	-0.0268	-0.0164	0.6418	0.0720	0.5698	-2.8120
2	-2.08	0.0	-1.0830	3.5067	0.0003	-0.0173	-0.0183	0.5904	0.0712	0.5192	-3.2380
3	-1.05	0.0	-0.9330	3.3079	-0.0067	-0.0100	-0.0162	0.5663	0.0712	0.4951	-3.5455
4	-0.03	0.0	-0.7910	3.1245	-0.0134	-0.0033	-0.0172	0.5400	0.0723	0.4677	-3.9501
5	0.99	0.01	-0.6348	2.9266	-0.0207	0.0041	-0.0151	0.5178	0.0731	0.4447	-4.6103
6	2.02	0.0	-0.4865	2.7368	-0.0077	-0.0093	-0.0161	0.4933	0.0733	0.4200	-5.6254
7	4.07	0.0	-0.1742	2.3481	-0.0023	-0.0151	-0.0149	0.4418	0.0739	0.3679	-13.4791
8	6.13	0.0	0.1811	1.8932	0.0010	-0.0186	-0.0142	0.3949	0.0742	0.3207	10.4536
9	8.20	0.0	0.5501	1.5038	0.0043	-0.0063	-0.0188	0.3647	0.0742	0.2905	2.7337
10	10.27	0.0	0.9198	1.2516	-0.0123	0.0086	-0.0216	0.3510	0.0738	0.2772	1.3687
11	12.36	0.0	1.2724	1.1210	0.0125	-0.0198	-0.0229	0.3478	0.0719	0.2759	0.8810
12	14.45	0.0	1.6174	1.0273	0.0179	-0.0285	-0.0238	0.3493	0.0694	0.2799	0.6352
13	16.53	0.0	1.9923	0.9024	0.0218	-0.0359	-0.0248	0.3559	0.0702	0.2857	0.4529
14	18.63	0.0	2.3980	0.7455	0.0043	-0.0213	-0.0259	0.3603	0.0717	0.2886	0.3109
15	20.73	0.0	2.8350	0.5417	0.0254	-0.0464	-0.0273	0.3667	0.0719	0.2948	0.1911
16	-0.03	0.0	-0.7909	3.1245	0.0066	-0.0238	-0.0172	0.5398	0.0730	0.4668	-3.9506
17	-0.04	0.0	-0.7987	3.1325	0.0069	-0.0241	-0.0172	0.5399	0.0726	0.4673	-3.9221

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	MACH	RX10-6	PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4	37	4.63	3.0	-90.0	B2WOF31	0.0	20	0	20	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-3.76	0.0	-1.1974	3.2795	0.0126	-0.0259	-0.0141	0.5755	0.0546	0.5209	-2.7388
2	-1.73	0.0	-0.9137	2.9672	0.0251	-0.0392	-0.0154	0.5327	0.0556	0.4771	-3.2475
3	-0.70	0.0	-0.7718	2.8110	0.0185	-0.0327	-0.0160	0.5081	0.0556	0.4525	-3.6421
4	0.32	0.0	-0.6301	2.6457	0.0119	-0.0241	-0.0168	0.4837	0.0556	0.4281	-4.1989
5	1.32	0.0	-0.4804	2.4722	0.0306	-0.0455	-0.0135	0.4589	0.0556	0.4033	-5.1462
6	2.35	0.0	-0.3413	2.3212	0.0238	-0.0391	-0.0182	0.4345	0.0556	0.3789	-6.8009
7	4.39	0.0	-0.0220	1.9442	0.0344	-0.0504	-0.0200	0.3843	0.0556	0.3287	-88.3718
8	6.44	0.0	0.2929	1.5810	0.0198	-0.0359	-0.0176	0.3463	0.0550	0.2913	5.3977
9	8.49	0.0	0.6051	1.3662	0.0315	-0.0496	-0.0172	0.3288	0.0558	0.2730	2.2578
10	10.54	0.0	0.9187	1.2292	0.0434	-0.0442	-0.0200	0.3273	0.0561	0.2712	1.3379
11	12.60	0.0	1.2174	1.1704	0.0315	-0.0335	-0.0218	0.3273	0.0555	0.2718	0.9614
12	14.67	-0.01	1.5389	1.1030	0.0435	-0.0488	-0.0235	0.3335	0.0543	0.2792	0.7168
13	16.74	-0.01	1.8847	0.9869	0.0539	-0.0624	-0.0258	0.3393	0.0537	0.2856	0.5138
14	18.79	0.0	2.2342	0.7966	0.0390	-0.0496	-0.0246	0.3468	0.0536	0.2932	0.3566
15	20.87	-0.01	2.6480	0.5525	0.0460	-0.0595	-0.0276	0.3557	0.0537	0.3020	0.2088
16	0.31	-0.01	-0.6307	2.6488	0.0382	-0.0317	-0.0168	0.4815	0.0568	0.4247	-4.1998

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6			PHI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION	
4	38	2.36	3.0	-90.0	W2WOF32	0.0	20	0	20	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAP	XCP
1	-4.05	0.0	-1.9191	5.8927	-0.0119	0.0042	-0.0092	0.9032	0.1266	0.7766	-3.0705
2	-1.96	0.0	-1.5975	5.4457	-0.0005	-0.0072	-0.0077	0.8460	0.1295	0.7165	-3.4089
3	-0.92	0.0	-1.4283	5.2057	0.0045	-0.0122	-0.0093	0.8162	0.1328	0.6834	-3.6447
4	0.10	0.0	-1.2732	4.9668	-0.0030	-0.0041	-0.0088	0.7889	0.1366	0.6523	-3.9011
5	1.14	0.0	-1.1076	4.7117	0.0023	-0.0091	-0.0084	0.7622	0.1413	0.6209	-4.2540
6	2.18	0.0	-0.9434	4.4475	0.0075	-0.0139	-0.0043	0.7347	0.1458	0.5889	-4.7144
7	4.26	0.0	-0.5875	3.9094	0.0036	-0.0091	-0.0077	0.6774	0.1538	0.5236	-6.6543
8	6.35	0.0	-0.2043	3.3540	-0.0017	-0.0031	-0.0094	0.6233	0.1617	0.4616	-16.4169
9	8.44	0.0	0.2005	2.8548	0.0063	-0.0005	-0.0077	0.5727	0.1678	0.4049	14.2383
10	10.59	0.0	0.7145	2.3365	0.0097	0.0057	-0.0073	0.5280	0.1691	0.3589	3.2701
11	12.75	0.0	1.2578	1.8742	0.0116	0.0013	-0.0079	0.4876	0.1660	0.3216	1.4901
12	14.92	-0.01	1.8127	1.4788	0.0014	0.0419	-0.0074	0.4634	0.1646	0.2988	0.0150
13	17.09	0.0	2.3459	1.1062	0.0035	0.0254	-0.0132	0.4404	0.1630	0.2774	0.4715
14	19.27	0.0	2.9152	0.7195	-0.0078	0.0556	-0.0146	0.4174	0.1630	0.2544	0.2468
15	21.46	0.0	3.4923	0.3513	0.0054	0.0048	-0.0135	0.3968	0.1622	0.2346	0.1806
16	0.11	0.0	-1.2834	4.9771	0.0107	-0.0181	-0.0088	0.7903	0.1363	0.6540	-3.8781

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LANGLEY RESEARCH CENTER(NASA) UNITARY PLAN WIND TUNNEL(UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6 PHI CONF L DEL1 DEL2 DEL3 DEL4 TRANSITION											
4 39 2.86 3.0 -90.0 H2WOF32 0.0 20 0 20 0 FIXED											
POINT	ALPHA	BETA	CN	CLN	CY	CLW	CLL	CA	CAB	CAF	KCP
1	-4.21	0.0	-1.7220	5.0309	0.0198	-0.0187	-0.0147	0.0160	0.1031	0.7129	-2.9215
2	-2.13	0.0	-1.4008	4.6349	0.0199	-0.0189	-0.0120	0.7605	0.1050	0.6555	-3.3088
3	-1.10	-0.01	-1.2479	4.4313	0.0276	-0.0268	-0.0131	0.7330	0.1074	0.6256	-3.5518
4	-0.07	-0.01	-1.0894	4.2110	0.0201	-0.0190	-0.0121	0.7056	0.1104	0.5952	-3.8654
5	0.96	-0.01	-0.9381	3.9985	0.0279	-0.0260	-0.0111	0.6804	0.1134	0.5670	-4.2602
6	2.00	-0.01	-0.7681	3.7650	0.0199	-0.0186	-0.0100	0.6542	0.1167	0.5375	-4.9017
7	4.07	0.0	-0.4407	3.3169	0.0193	-0.0178	-0.0103	0.6007	0.1215	0.4792	-7.5268
8	6.15	0.0	-0.0517	2.8064	0.0158	-0.0142	-0.0109	0.5487	0.1275	0.4212	-54.2818
9	8.24	-0.01	0.3712	2.2910	0.0261	-0.0251	-0.0087	0.4950	0.1289	0.3661	6.1717
10	10.36	0.0	0.8591	1.7891	0.0186	-0.0188	-0.0105	0.4536	0.1255	0.3281	2.0826
11	12.50	0.0	1.3454	1.3681	0.0120	-0.0015	-0.0111	0.4253	0.1213	0.3040	1.0169
12	14.63	0.0	1.8108	1.0857	0.0070	0.0131	-0.0125	0.4097	0.1221	0.2876	0.5996
13	16.77	-0.01	2.2848	0.8288	0.0161	0.0003	-0.0158	0.4019	0.1232	0.2787	0.3627
14	18.91	-0.01	2.7528	0.6103	0.0257	-0.0134	-0.0162	0.3940	0.1220	0.2729	0.2217
15	21.06	-0.01	3.2525	0.3407	0.0194	0.0019	-0.0170	0.3865	0.1213	0.2652	0.1048
16	-0.06	0.0	-1.0905	4.2146	0.0042	-0.0280	-0.0121	0.7060	0.1106	0.5954	-3.8648

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
40 3.95 3.0 -90.0 82=0F32 0.0											
DEL1 DEL2 DEL3 DEL4 TRANSITION											
20 0 20 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-4.13	0.01	-1.3914	3.9282	-0.0244	0.0079	-0.0092	0.6560	0.0696	0.5864	-2.8232
2	-2.07	0.0	-1.0946	3.5628	-0.0183	0.0013	-0.0079	0.6133	0.0682	0.5451	-3.2549
3	-1.05	0.01	-0.9542	3.3812	-0.0250	0.0081	-0.0089	0.5874	0.0706	0.5168	-3.5435
4	-0.03	0.01	-0.8047	3.1789	-0.0320	0.0153	-0.0100	0.5654	0.0722	0.4932	-3.9504
5	0.98	0.0	-0.6546	2.9822	-0.0189	0.0020	-0.0079	0.5411	0.0728	0.4603	-4.5410
6	2.03	0.01	-0.5008	2.7845	-0.0264	0.0095	-0.0090	0.5139	0.0728	0.4411	-5.5602
7	4.07	0.01	-0.1612	2.3812	-0.0214	0.0042	-0.0080	0.4627	0.0742	0.3885	-13.1418
8	6.14	0.0	0.1616	1.9239	-0.0187	0.0010	-0.0104	0.4189	0.0741	0.3448	10.5944
9	8.20	0.0	0.5500	1.5418	-0.0151	0.0131	-0.0117	0.3879	0.0756	0.3123	2.8033
10	10.27	0.0	0.9039	1.3300	-0.0109	0.0065	-0.0141	0.3741	0.0746	0.2995	1.4714
11	12.36	0.0	1.2560	1.2070	-0.0054	0.0146	-0.0153	0.3734	0.0725	0.3009	0.9610
12	14.45	0.0	1.6008	1.1204	0.0008	0.0218	-0.0129	0.3775	0.0706	0.3069	0.6999
13	16.54	0.0	1.9676	1.0252	0.0052	0.0138	-0.0136	0.3856	0.0701	0.3155	0.5210
14	18.64	0.0	2.3691	0.9068	0.0083	0.0069	-0.0142	0.3940	0.0710	0.3230	0.3820
15	20.74	0.0	2.8063	0.7247	0.0094	0.0020	-0.0153	0.4017	0.0707	0.3310	0.2582
16	-0.03	0.0	-0.8215	3.1932	0.0099	0.0060	-0.0101	0.5466	0.0731	0.4935	-3.8870

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST PART MACH RX10-6											
4 41 4.63 3.0 -90.0 82W0F32 0.0 20 0 20 0 FIXED											
POINT	ALPHA	BETA	CN	CLM	CY	CLM	CLL	CA	CAB	CAF	XCP
1	-3.77	0.0	-1.2294	3.3619	0.0156	-0.0078	-0.0092	0.5895	0.0550	0.5345	-2.7346
2	-1.73	-0.01	-0.9397	3.0341	0.0284	-0.0000	-0.0106	0.5479	0.0550	0.4929	-3.2288
3	-0.71	-0.01	-0.6001	2.8618	0.0216	0.0066	-0.0115	0.5241	0.0550	0.4691	-3.5768
4	0.31	0.0	-0.6502	2.6880	0.0150	0.0134	-0.0082	0.5032	0.0550	0.4482	-4.1341
5	1.32	-0.01	-0.5005	2.5144	0.0335	-0.0058	-0.0090	0.4784	0.0557	0.4227	-5.0238
6	2.35	-0.01	-0.3507	2.3407	0.0265	0.0010	-0.0098	0.4531	0.0557	0.3974	-6.6744
7	4.39	-0.01	-0.0413	1.9741	0.0375	-0.0107	-0.0116	0.4032	0.0557	0.3475	-47.7979
8	6.45	-0.01	0.2937	1.6014	0.0474	-0.0216	-0.0131	0.3680	0.0568	0.3112	5.4523
9	8.49	-0.01	0.5965	1.4024	0.0340	-0.0096	-0.0127	0.3541	0.0568	0.2973	2.3511
10	10.55	-0.01	0.8998	1.3049	0.0465	-0.0251	-0.0150	0.3520	0.0561	0.2959	1.4502
11	12.61	-0.01	1.2001	1.2567	0.0602	-0.0207	-0.0166	0.3583	0.0555	0.3028	1.0472
12	14.67	-0.01	1.5105	1.2073	0.0474	-0.0106	-0.0141	0.3672	0.0556	0.3116	0.7993
13	16.74	-0.01	1.8487	1.0917	0.0328	0.0014	-0.0162	0.3818	0.0536	0.3282	0.5985
14	18.80	-0.01	2.2061	0.9377	0.0428	-0.0117	-0.0187	0.3873	0.0536	0.3337	0.4250
15	20.87	-0.01	2.5935	0.7433	0.0516	-0.0236	-0.0173	0.3954	0.0536	0.3418	0.2866
16	0.30	-0.01	-0.6603	2.6892	0.0410	-0.0131	-0.0083	0.5003	0.0561	0.4442	-4.8727



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LANGLEY RESEARCH CENTER(NASA) UNITARY PLAN WIND TUNNEL(UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	MACH	REX10-6	PMI	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4	42	2.86	3.0	-90.0	H2=0F36	0.0	20	0	20	0	FIXED
POINT	ALPHA	BETA	CN	CLM	CY	CLN	CLL	CA	CAB	CAF	RCP
1	-4.23	0.0	-1.5247	4.1150	0.0205	-0.0379	-0.0086	0.7278	0.1200	0.6078	-2.4981
2	-2.15	0.0	-1.2281	3.7923	-0.0001	-0.0174	-0.0051	0.6696	0.1171	0.5525	-3.0880
3	-1.12	0.0	-1.0744	3.5724	0.0041	-0.0217	-0.0065	0.6413	0.1176	0.5237	-3.3250
4	-0.09	0.0	-0.9323	3.4475	0.0094	-0.0277	-0.0067	0.6152	0.1167	0.4945	-3.6970
5	0.94	0.0	-0.7918	3.3049	0.0029	-0.0214	-0.0071	0.5890	0.1169	0.4721	-4.1739
6	1.98	0.0	-0.6354	3.0946	-0.0046	-0.0137	-0.0084	0.5615	0.1158	0.4457	-4.8703
7	4.05	0.0	-0.3095	2.7125	-0.0046	-0.0141	-0.0054	0.5151	0.1174	0.3977	-8.7641
8	6.14	0.0	0.0341	2.3588	0.0097	-0.0297	-0.0042	0.4721	0.1183	0.3538	69.1748
9	8.24	0.0	0.4421	1.9426	0.0063	-0.0148	-0.0056	0.4413	0.1236	0.3177	4.3941
10	10.36	0.0	0.9140	1.5253	0.0007	0.0143	-0.0064	0.4156	0.1259	0.2897	1.6689
11	12.50	0.0	1.3766	1.2453	-0.0047	0.0167	-0.0077	0.3994	0.1252	0.2742	0.9046
12	14.64	0.0	1.8292	1.0426	0.0061	0.0146	-0.0081	0.3941	0.1257	0.2684	0.5700
13	16.77	0.0	2.2818	0.8505	0.0021	0.0275	-0.0084	0.3890	0.1261	0.2629	0.3727
14	18.91	0.0	2.7512	0.6510	0.0114	0.0014	-0.0085	0.3796	0.1252	0.2544	0.2366
15	21.07	0.0	3.2532	0.3986	0.0053	0.0289	-0.0090	0.3753	0.1249	0.2504	0.1225
16	-0.09	0.0	-0.9362	3.4519	0.0097	-0.0280	-0.0066	0.6139	0.1156	0.4983	-3.6072

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST BODY MACH RX10-6											
4 43 2.36 3.0 -90.0 H2+O F36 0.0 20 0 20 0 FIXED											
POINT	ALPHA	BETA	CN	CLN	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-4.08	0.0	-1.7019	4.7637	-0.0013	-0.0088	-0.0060	0.8016	0.1504	0.6512	-2.7990
2	-2.00	0.0	-1.3777	4.3782	0.0037	-0.0255	-0.0057	0.7462	0.1471	0.5991	-3.1779
3	-0.97	0.0	-1.2410	4.2446	0.0077	-0.0301	-0.0061	0.7130	0.1444	0.5686	-3.4203
4	0.08	0.0	-1.0798	4.0147	-0.0030	-0.0190	-0.0075	0.6814	0.1455	0.5359	-3.7100
5	1.10	0.0	-0.9054	3.7331	0.0031	0.0068	-0.0053	0.6558	0.1461	0.5097	-4.1232
6	2.15	0.0	-0.7512	3.5436	-0.0048	-0.0055	-0.0042	0.6324	0.1478	0.4846	-4.7173
7	4.23	0.0	-0.4172	3.1457	0.0060	-0.0170	-0.0040	0.5834	0.1494	0.4340	-7.5405
8	6.33	0.0	-0.0673	2.7542	0.0031	-0.0147	-0.0036	0.5369	0.1494	0.3875	-40.9241
9	8.44	0.0	0.3247	2.3889	-0.0012	-0.0006	-0.0045	0.5017	0.1556	0.3461	7.3573
10	10.59	0.0	0.7992	1.9954	0.0043	0.0027	-0.0049	0.4739	0.1596	0.3143	2.4940
11	12.75	0.0	1.3127	1.6930	-0.0051	0.0088	-0.0057	0.4558	0.1625	0.2933	1.2897
12	14.93	0.0	1.8425	1.3993	-0.0010	0.0230	-0.0064	0.4425	0.1639	0.2786	0.7540
13	17.11	0.0	2.3461	1.2448	-0.0080	0.0585	-0.0072	0.4383	0.1649	0.2734	0.5386
14	19.29	0.0	2.8942	0.9664	-0.0054	0.0514	-0.0072	0.4227	0.1693	0.2534	0.3339
15	21.49	-0.01	3.4486	0.6693	0.0097	0.0204	-0.0074	0.4053	0.1689	0.2364	0.1941
16	0.07	0.0	-1.0787	4.0205	0.0106	-0.0219	-0.0095	0.6811	0.1457	0.5354	-3.7272
17	0.07	0.0	-1.0904	4.0366	0.0112	-0.0224	-0.0074	0.6820	0.1452	0.5368	-3.7020



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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA

TEST	PART	MACH	RX10-6	PM1	CONF	L	DEL1	DEL2	DEL3	DEL4	TRANSITION
4	45	4.63	3.0	-90.0	B2W0F36	0.0	20	0	20	0	FIXED
POINT	ALPHA	BETA	CM	CLM	CY	CLN	CLL	CA	CAB	CAF	XCP
1	-3.79	0.0	-1.1019	2.7096	0.0548	-0.0654	-0.0084	0.5245	0.0561	0.4684	-2.4598
2	-1.74	0.0	-0.8177	2.4520	0.0304	-0.0414	-0.0090	0.4816	0.0572	0.4244	-2.9987
3	-0.72	-0.01	-0.6855	2.3244	0.0450	-0.0354	-0.0094	0.4560	0.0578	0.3982	-3.3908
4	0.30	-0.01	-0.5436	2.1866	0.0329	-0.0234	-0.0098	0.4330	0.0585	0.3745	-4.0225
5	1.32	0.0	-0.4057	2.0622	0.0266	-0.0175	-0.0100	0.4112	0.0585	0.3527	-5.0831
6	2.36	-0.01	-0.2677	1.9471	0.0459	-0.0378	-0.0101	0.3919	0.0585	0.3334	-7.2735
7	4.39	-0.01	0.0178	1.6625	0.0328	-0.0252	-0.0111	0.3487	0.0579	0.2908	93.3981
8	6.43	-0.01	0.3335	1.3542	0.0446	-0.0170	-0.0120	0.3226	0.0579	0.2647	4.0604
9	8.49	-0.01	0.6408	1.1711	0.0309	-0.0048	-0.0154	0.3089	0.0579	0.2510	1.8275
10	10.54	-0.01	0.9466	1.0679	0.0434	-0.0202	-0.0136	0.3095	0.0580	0.2515	1.1282
11	12.60	-0.01	1.2465	1.0251	0.0316	0.0103	-0.0152	0.3159	0.0568	0.2591	0.8224
12	14.67	0.0	1.5663	0.9616	0.0183	0.0210	-0.0128	0.3216	0.0556	0.2660	0.6140
13	16.74	-0.01	1.9140	0.8280	0.0288	0.0073	-0.0151	0.3272	0.0549	0.2723	0.4326
14	18.80	-0.01	2.2709	0.6591	0.0389	-0.0057	-0.0137	0.3359	0.0541	0.2818	0.2902
15	20.87	-0.01	2.6678	0.4489	0.0481	0.0037	-0.0124	0.3446	0.0541	0.2905	0.1683
16	0.30	-0.01	-0.5535	2.1969	0.0333	-0.0237	-0.0097	0.4300	0.0572	0.3728	-3.9692

## **APPENDIX E**

### **TEST 5**

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

SPLITTER PLATE DATA

TEST PART NACA RR10-6 CONF TRANSITION

5 2 1.50 1.0 F35 FIXED

POINT	ALPHA	CNF	CH	CB	XCFF	YCFF
1	-6.00	-0.2429	0.0084	-0.0067	-0.0345	0.3569
2	-4.00	-0.1525	0.0054	-0.0049	-0.0353	0.3272
3	-3.00	-0.1089	0.0041	-0.0338	-0.0373	0.3104
4	-2.00	-0.0636	0.0033	-0.0107	-0.0523	0.2948
5	-1.00	-0.0236	0.0021	-0.0040	-0.0902	0.1699
6	0.0	0.0197	0.0011	0.0125	0.0574	0.6345
7	1.00	0.0615	0.0003	0.0266	0.0054	0.4325
8	2.00	0.1013	-0.0007	0.0424	-0.0066	0.4186
9	3.00	0.1525	-0.0019	0.0588	-0.0122	0.3856
10	4.00	0.2000	-0.0033	0.0757	-0.0166	0.3785
11	6.00	0.3026	-0.0063	0.1107	-0.0209	0.3658
12	8.00	0.3940	-0.0089	0.1417	-0.0225	0.3596
13	10.00	0.4414	-0.0117	0.1712	-0.0238	0.3484
14	12.00	0.5846	-0.0148	0.2002	-0.0254	0.3425
15	14.00	0.6006	-0.0183	0.2284	-0.0269	0.3356
16	16.00	0.7051	-0.0209	0.2526	-0.0273	0.3302
17	18.00	0.8503	-0.0229	0.2742	-0.0269	0.3225

LANGLEY RESEARCH CENTER(NASA)

UNITARY PLAN WIND TUNNEL(UPWT)

PAGE 1 OF 1  
SHEET 1 OF 1MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATATEST PART MACH PR10-6 CONF TRANSITION  
5 3 1.80 1.8 F35 FIXED

POINT	ALPHA	CNF	CM	CH	KCPF	YCPF
1	-4.00	-0.1676	0.0063	-0.0685	-0.0373	0.4087
2	-4.00	-0.1345	0.0050	-0.0498	-0.0371	0.3703
3	-3.00	-0.0945	0.0039	-0.0348	-0.0400	0.3608
4	-2.00	-0.0588	0.0025	-0.0203	-0.0432	0.3464
5	-1.00	-0.0243	0.0011	-0.0064	-0.0466	0.2634
6	0.0	0.0181	-0.0004	0.0065	-0.0221	0.3591
7	1.00	0.0546	-0.0018	0.0198	-0.0329	0.3626
8	2.00	0.0692	-0.0031	0.0338	-0.0343	0.3789
9	3.00	0.1275	-0.0043	0.0480	-0.0334	0.3765
10	4.00	0.1658	-0.0053	0.0615	-0.0321	0.3709
11	6.00	0.2464	-0.0073	0.0884	-0.0294	0.3588
12	8.00	0.3231	-0.0089	0.1123	-0.0274	0.3478
13	10.00	0.3978	-0.0106	0.1349	-0.0266	0.3391
14	12.00	0.4665	-0.0121	0.1561	-0.0260	0.3346
15	14.00	0.5380	-0.0136	0.1753	-0.0254	0.3258
16	16.00	0.6106	-0.0154	0.1935	-0.0252	0.3169
17	18.00	0.6749	-0.0167	0.2115	-0.0247	0.3134
18	20.00	0.7377	-0.0180	0.2276	-0.0244	0.3085
19	22.00	0.8076	-0.0207	0.2424	-0.0256	0.3001
20	24.00	0.8769	-0.0231	0.2583	-0.0263	0.2966
21	26.00	0.9447	-0.0256	0.2763	-0.0271	0.2925
22	28.00	1.0044	-0.0276	0.2927	-0.0275	0.2914
23	0.0	0.0162	-0.0003	0.0053	-0.0205	0.3272
24	0.0	0.0163	-0.0003	0.0050	-0.0163	0.3067

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LANGLEY RESEARCH CENTER(NASA)

UNITARY PLAN WIND TUNNEL(UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

SPLITTER PLATE DATA

TEST PART NACA 0010-6 CONF TRANSITION  
5 4 2.16 2.5 F35 FIXED

POINT	ALPHA	CNF	CH	CB	XCPF	YCPF
1	-6.00	-0.1247	0.0046	-0.0483	-0.0368	0.3873
2	-4.00	-0.0881	0.0031	-0.0297	-0.0355	0.3371
3	-3.00	-0.0550	0.0021	-0.0170	-0.0387	0.3091
4	-2.00	-0.0215	0.0011	-0.0059	-0.0526	0.2744
5	-1.00	0.0150	0.0001	0.0051	0.0044	0.3480
6	0.0	0.0413	-0.0009	0.0161	-0.0226	0.3898
7	1.00	0.0749	-0.0018	0.0272	-0.0240	0.3632
8	2.00	0.1084	-0.0027	0.0389	-0.0252	0.3589
9	3.00	0.1421	-0.0037	0.0503	-0.0258	0.3548
10	4.00	0.1756	-0.0045	0.0617	-0.0254	0.3514
11	6.00	0.2387	-0.0059	0.0820	-0.0248	0.3435
12	8.00	0.2993	-0.0073	0.1013	-0.0245	0.3385
13	10.00	0.3600	-0.0091	0.1203	-0.0251	0.3342
14	12.00	0.4242	-0.0107	0.1369	-0.0253	0.3227
15	14.00	0.4849	-0.0127	0.1544	-0.0262	0.3184
16	16.00	0.5461	-0.0146	0.1704	-0.0268	0.3120
17	18.00	0.6032	-0.0164	0.1880	-0.0271	0.3117
18	20.00	0.6647	-0.0178	0.2024	-0.0267	0.3045
19	0.0	0.0427	-0.0009	0.0162	-0.0203	0.3794
20	20.00	0.6659	-0.0180	0.2019	-0.0270	0.3032
21	22.00	0.7282	-0.0201	0.2175	-0.0276	0.2987
22	24.00	0.7853	-0.0216	0.2320	-0.0275	0.2954
23	26.00	0.8531	-0.0235	0.2482	-0.0275	0.2909
24	28.00	0.9146	-0.0260	0.2648	-0.0285	0.2895



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LANGLEY RESEARCH CENTER (NASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
S 5 1.50 1.8 F36 FIXED

POINT	ALPHA	CNF	CH	CB	XCPR	YCPR
1	-6.00	-0.2775	-0.0056	-0.1167	0.0202	0.4205
2	-4.00	-0.1579	-0.0036	-0.0652	0.0227	0.4129
3	-3.00	-0.1124	-0.0027	-0.0423	0.0241	0.3747
4	-2.00	-0.0517	-0.0007	-0.0218	0.0135	0.4217
5	-1.00	-0.0031	0.0016	0.0019	-0.5269	-0.6129
6	0.0	0.0537	0.0037	0.0253	0.0681	0.4711
7	1.00	0.1065	0.0060	0.0476	0.0562	0.4469
8	2.00	0.1636	0.0076	0.0713	0.0466	0.4358
9	3.00	0.2188	0.0086	0.0952	0.0395	0.4351
10	4.00	0.2762	0.0094	0.1191	0.0341	0.4312
11	6.00	0.3414	0.0100	0.1687	0.0254	0.4310
12	8.00	0.5075	0.0093	0.2193	0.0182	0.4321
13	10.00	0.6224	0.0076	0.2668	0.0122	0.4287
14	12.00	0.7369	0.0051	0.3107	0.0069	0.4216
15	14.00	0.8418	0.0018	0.3538	0.0021	0.4193
16	16.00	0.9460	-0.0011	0.3876	-0.0012	0.4097

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART MACH RATIO-6 CONF TRANSITION  
5 6 1.60 1.8 F34 FIXED

POINT	ALPHA	CNF	CN	CU	XCPC	YCPC
1	-6.00	-0.1481	0.0014	-0.0851	-0.0074	0.4524
2	-4.00	-0.1664	0.0011	-0.0551	-0.0065	0.3311
3	-3.00	-0.1285	0.0009	-0.0356	-0.0067	0.2770
4	-2.00	-0.0841	0.0005	-0.0180	-0.0065	0.2140
5	-1.00	-0.0456	0.0004	-0.0007	-0.0085	0.0154
6	0.0	-0.0071	0.0002	0.0161	-0.0329	-2.2676
7	1.00	0.0313	0.0001	0.0341	0.0025	1.0895
8	2.00	0.0680	-0.0002	0.0512	-0.0034	0.7529
9	3.00	0.1123	-0.0006	0.0707	-0.0055	0.6294
10	4.00	0.1547	-0.0009	0.0892	-0.0055	0.5766
11	6.00	0.2436	-0.0015	0.1273	-0.0061	0.5226
12	8.00	0.3290	-0.0024	0.1647	-0.0073	0.5006
13	10.00	0.4205	-0.0036	0.2028	-0.0085	0.4823
14	12.00	0.5085	-0.0047	0.2391	-0.0092	0.4702
15	14.00	0.5956	-0.0058	0.2729	-0.0097	0.4580
16	16.00	0.6834	-0.0073	0.3073	-0.0107	0.4497
17	18.00	0.7697	-0.0093	0.3389	-0.0121	0.4403
18	20.00	0.8527	-0.0117	0.3691	-0.0138	0.4329
19	22.00	0.9420	-0.0151	0.3982	-0.0160	0.4227
20	0.0	-0.0013	0.0002	0.0169	-0.1795	-13.0000
21	22.00	0.9689	-0.0137	0.3948	-0.0141	0.4075
22	24.00	1.0303	-0.0166	0.4266	-0.0162	0.4141
23	26.00	1.0791	-0.0184	0.4594	-0.0170	0.4257
24	28.00	1.1386	-0.0205	0.4853	-0.0180	0.4262

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

SPLITTER PLATE DATA

TEST PART NACH RX10-6 CONF TRANSITION  
5 7 2.10 2.5 F34 FIXED

POINT	ALPHA	CMF	CN	CB	XCPF	YCPF
1	-6.00	-0.1484	0.0033	-0.0647	-0.0220	0.4368
2	-4.00	-0.1013	0.0020	-0.0320	-0.0200	0.3159
3	-3.00	-0.0717	0.0016	-0.0179	-0.0217	0.2497
4	-2.00	-0.0377	0.0010	-0.0036	-0.0268	0.0955
5	-1.00	-0.0035	0.0005	0.0093	-0.1333	-2.6571
6	0.0	0.0307	0.0	0.0227	0.0	0.7394
7	1.00	0.0571	-0.0005	0.0375	-0.0082	0.6567
8	2.00	0.0942	-0.0010	0.0529	-0.0107	0.5616
9	3.00	0.1329	-0.0015	0.0671	-0.0111	0.5049
10	4.00	0.1700	-0.0020	0.0815	-0.0119	0.4794
11	6.00	0.2360	-0.0033	0.1122	-0.0138	0.4754
12	8.00	0.3094	-0.0045	0.1435	-0.0146	0.4638
13	10.00	0.3848	-0.0054	0.1750	-0.0141	0.4548
14	12.00	0.4588	-0.0064	0.2064	-0.0139	0.4499
15	14.00	0.5344	-0.0072	0.2362	-0.0135	0.4420
16	16.00	0.6102	-0.0084	0.2654	-0.0138	0.4349
17	18.00	0.6943	-0.0102	0.2928	-0.0147	0.4217
18	0.0	0.0336	0.0001	0.0238	0.0023	0.7003
19	18.00	0.6908	-0.0096	0.2942	-0.0140	0.4259
20	20.00	0.7536	-0.0118	0.3236	-0.0157	0.4294
21	22.00	0.8478	-0.0144	0.3545	-0.0170	0.4181
22	24.00	0.9126	-0.0170	0.3799	-0.0187	0.4163
23	26.00	0.9731	-0.0191	0.4071	-0.0197	0.4184
24	28.00	1.0477	-0.0224	0.4321	-0.0214	0.4124

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART NACH RX10-6 CONF TRANSITION  
5 0 1.50 1.8 F31 FIXED

POINT	ALPHA	CNF	CM	CU	ACPF	YCPF
1	-6.00	-0.1335	-0.0057	-0.0329	0.0425	0.2464
2	-4.00	-0.0796	-0.0033	-0.0125	0.0410	0.1570
3	-3.00	-0.0555	-0.0016	-0.0060	0.0280	0.1081
4	-2.00	-0.0365	0.0001	-0.0003	-0.0021	0.0082
5	-1.00	-0.0254	0.0017	0.0068	-0.0074	-0.2677
6	0.0	-0.0093	0.0038	0.0123	-0.4098	-1.3226
7	1.00	0.0066	0.0057	0.0202	0.8350	2.9706
8	2.00	0.0202	0.0075	0.0288	0.3735	1.4257
9	3.00	0.0467	0.0093	0.0380	0.1982	0.8137
10	4.00	0.0709	0.0105	0.0478	0.1481	0.6742
11	6.00	0.1273	0.0122	0.0741	0.0959	0.5821
12	8.00	0.1695	0.0125	0.1041	0.0661	0.5493
13	10.00	0.2581	0.0114	0.1391	0.0443	0.5389
14	12.00	0.3382	0.0095	0.1681	0.0281	0.4970
15	14.00	0.4159	0.0069	0.1988	0.0166	0.4780
16	16.00	0.4910	0.0046	0.2281	0.0093	0.4646
17	18.00	0.5555	0.0023	0.2594	0.0042	0.4678
18	20.00	0.6404	-0.0019	0.2855	-0.0030	0.4658
19	22.00	0.7156	-0.0077	0.3178	-0.0108	0.4441
20	24.00	0.7946	-0.0116	0.3443	-0.0146	0.4332
21	26.00	0.8718	-0.0152	0.3673	-0.0175	0.4213
22	28.00	0.9399	-0.0184	0.3926	-0.0195	0.4177
23	0.0	0.0039	0.0040	0.0083	1.0171	2.1282

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

SPLITTER PLATE DATA

TEST PART NACH RX10-6 CONF TRANSITION  
5 9 1.80 1.8 F31 FIXED

POINT	ALPHA	CMF	CM	CH	KCPX	YCPX
1	-6.00	-0.1174	-0.0037	-0.0449	0.0311	0.3625
2	-4.00	-0.0796	-0.0025	-0.0215	0.0315	0.2722
3	-3.00	-0.0756	-0.0016	-0.0076	0.0206	0.1805
4	-2.00	-0.0407	-0.0004	-0.0046	0.0094	0.1138
5	-1.00	-0.0213	0.0008	0.0009	-0.0365	-0.0423
6	0.0	-0.0068	0.0012	0.0079	-0.1830	-1.1618
7	1.00	0.0101	0.0020	0.0141	0.2002	1.3980
8	2.00	0.0293	0.0033	0.0208	0.1115	0.7699
9	3.00	0.0485	0.0044	0.0287	0.0898	0.5918
10	4.00	0.0676	0.0051	0.0411	0.0748	0.6080
11	6.00	0.1220	0.0058	0.0654	0.0472	0.5361
12	8.00	0.1797	0.0054	0.0908	0.0303	0.5053
13	10.00	0.2433	0.0043	0.1178	0.0176	0.4862
14	12.00	0.3023	0.0021	0.1460	0.0069	0.4830
15	14.00	0.3670	-0.0002	0.1690	-0.0006	0.4605
16	16.00	0.4264	-0.0026	0.1948	-0.0062	0.4568
17	18.00	0.4976	-0.0064	0.2180	-0.0128	0.4381
18	20.00	0.5534	-0.0106	0.2459	-0.0191	0.4443
19	22.00	0.6191	-0.0138	0.2685	-0.0224	0.4337
20	24.00	0.6816	-0.0163	0.2912	-0.0238	0.4272
21	26.00	0.7504	-0.0200	0.3117	-0.0266	0.4154
22	28.00	0.8006	-0.0233	0.3367	-0.0291	0.4206
23	0.0	-0.0149	0.0014	0.0115	-0.0940	-0.7718
24	0.0	-0.0096	0.0013	0.0099	-0.1377	-1.0313

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
5 10 2.16 2.5 F31 FIXED

POINT	ALPHA	CNF	CH	C9	XCPF	YCPF
1	-6.00	-0.0979	-0.0012	-0.0303	0.0119	0.3095
2	-4.00	-0.0582	-0.0008	-0.0102	0.0134	0.1753
3	-3.00	-0.0415	0.0001	-0.0039	-0.0019	0.0940
4	-2.00	-0.0228	0.0009	0.0027	-0.0375	-0.1184
5	-1.00	-0.0139	0.0012	0.0114	-0.0693	-0.0201
6	0.0	0.0093	0.0019	0.0148	0.2007	1.5914
7	1.00	0.0320	0.0026	0.0220	0.0826	0.6875
8	2.00	0.0466	0.0033	0.0324	0.0701	0.6953
9	3.00	0.0696	0.0035	0.0420	0.0503	0.6034
10	4.00	0.0988	0.0035	0.0515	0.0354	0.5213
11	6.00	0.1454	0.0026	0.0756	0.0177	0.5199
12	8.00	0.1987	0.0011	0.0985	0.0055	0.4957
13	10.00	0.2585	-0.0011	0.1211	-0.0042	0.4685
14	12.00	0.3108	-0.0037	0.1451	-0.0120	0.4669
15	14.00	0.3632	-0.0065	0.1681	-0.0180	0.4628
16	16.00	0.4198	-0.0094	0.1890	-0.0224	0.4502
17	18.00	0.4789	-0.0128	0.2108	-0.0266	0.4402
18	20.00	0.5382	-0.0163	0.2325	-0.0302	0.4328
19	22.00	0.5989	-0.0194	0.2546	-0.0325	0.4251
20	24.00	0.6575	-0.0219	0.2732	-0.0332	0.4155
21	26.00	0.7121	-0.0245	0.2965	-0.0344	0.4164
22	28.00	0.7706	-0.0271	0.3167	-0.0351	0.4110
23	0.0	0.0070	0.0019	0.0173	0.2770	2.4714

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LANGLEY RESEARCH CENTER (NASA)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

UNITARY PLAN WIND TUNNEL (UPWT)

TEST PART MACH RX10-6 CONF TRANSITION  
5 11 1.50 1.8 F32 FIXED

POINT	ALPHA	CNF	CM	CR	XCPF	YCPF
1	-6.00	-0.0690	-0.0151	-0.0338	0.2188	0.4899
2	-4.00	-0.0517	-0.0107	-0.0240	0.2070	0.4642
3	-3.00	-0.0310	-0.0068	-0.0174	0.2194	0.5613
4	-2.00	-0.0186	-0.0026	-0.0094	0.1398	0.5054
5	-1.00	-0.0006	0.0015	-0.0043	-2.5000	7.1667
6	0.0	0.0174	0.0061	-0.0026	0.3506	-0.1494
7	1.00	0.0326	0.0103	0.0034	0.3160	0.1043
8	2.00	0.0476	0.0146	0.0117	0.3067	0.2450
9	3.00	0.0652	0.0185	0.0226	0.2837	0.3466
10	4.00	0.0934	0.0225	0.0303	0.2409	0.3244
11	6.00	0.1368	0.0294	0.0541	0.2149	0.3955
12	8.00	0.1990	0.0346	0.0823	0.1739	0.4136
13	10.00	0.2726	0.0382	0.1114	0.1401	0.4007
14	12.00	0.3440	0.0399	0.1466	0.1160	0.4262
15	14.00	0.4164	0.0411	0.1771	0.0987	0.4253
16	16.00	0.4886	0.0414	0.2143	0.0847	0.4306
17	18.00	0.5611	0.0414	0.2491	0.0738	0.4439
18	20.00	0.6455	0.0410	0.2839	0.0635	0.4398
19	22.00	0.7196	0.0397	0.3187	0.0552	0.4420
20	24.00	0.8006	0.0387	0.3517	0.0483	0.4393
21	26.00	0.8661	0.0353	0.3866	0.0442	0.4464
22	28.00	0.9374	0.0378	0.4127	0.0403	0.4403
23	0.0	0.0172	0.0062	-0.0002	0.3605	-0.0116

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LANGLEY RESEARCH CENTER (NASA)      UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART NACH RX10-6 CONF TRANSITION  
5      12 1.00 1.0      F32      FIXED

POINT	ALPHA	CNF	CH	CH	XCPF	YCPF
1	-6.00	-0.0752	-0.0121	-0.0382	0.1609	0.5080
2	-4.00	-0.0540	-0.0096	-0.0297	0.1778	0.5500
3	-3.00	-0.0357	-0.0067	-0.0214	0.1877	0.5994
4	-2.00	-0.0146	-0.0036	-0.0139	0.2432	0.9392
5	-1.00	-0.0016	-0.0004	-0.0074	0.2222	4.1111
6	0.0	0.0144	0.0023	-0.0031	0.1597	-0.2153
7	1.00	0.0301	0.0055	0.0026	0.1827	0.0864
8	2.00	0.0457	0.0090	0.0083	0.1969	0.1816
9	4.00	0.0623	0.0145	0.0259	0.1762	0.3147
10	6.00	0.1319	0.0194	0.0474	0.1471	0.3594
11	8.00	0.1695	0.0236	0.0709	0.1245	0.3741
12	10.00	0.2470	0.0271	0.1000	0.1097	0.4049
13	12.00	0.3077	0.0299	0.1270	0.0972	0.4127
14	14.00	0.3715	0.0318	0.1552	0.0856	0.4178
15	16.00	0.4332	0.0326	0.1863	0.0753	0.4301
16	18.00	0.5006	0.0328	0.2145	0.0655	0.4285
17	20.00	0.5605	0.0324	0.2448	0.0578	0.4368
18	22.00	0.6207	0.0316	0.2715	0.0503	0.4318
19	24.00	0.6947	0.0300	0.2999	0.0432	0.4317
20	26.00	0.7611	0.0279	0.3282	0.0367	0.4312
21	28.00	0.8222	0.0256	0.3556	0.0311	0.4325
22	0.0	0.0141	0.0026	-0.0019	0.1844	-0.1348
23	3.00	0.0635	0.0123	0.0166	0.1937	0.2614



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LANGLEY RESEARCH CENTER (NASA)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

UNITARY PLAN WIND TUNNEL (UPWT)

TEST PART MACH 0X10-6 CONF TRANSITION  
5 13 2.10 2.5 F32 FIXED

POINT	ALPHA	CNF	Cm	Cd	XCPF	YCPF
1	-6.00	-0.0538	-0.0062	-0.0259	0.1152	0.4814
2	-4.00	-0.0356	-0.0043	-0.0200	0.1208	0.5618
3	-3.00	-0.0176	-0.0021	-0.0122	0.1193	0.6932
4	-2.00	-0.0016	0.0003	-0.0065	-0.1875	4.0629
5	-1.00	0.0144	0.0026	-0.0016	0.1806	-0.1111
6	0.0	0.0205	0.0048	0.0047	0.1684	0.1649
7	1.00	0.0445	0.0070	0.0113	0.1573	0.2539
8	2.00	0.0605	0.0091	0.0197	0.1504	0.3256
9	3.00	0.0806	0.0107	0.0284	0.1328	0.3524
10	4.00	0.1048	0.0122	0.0377	0.1164	0.3597
11	6.00	0.1511	0.0147	0.0603	0.0973	0.3991
12	8.00	0.2035	0.0168	0.0845	0.0826	0.4152
13	10.00	0.2601	0.0184	0.1091	0.0707	0.4193
14	12.00	0.3168	0.0198	0.1355	0.0625	0.4277
15	14.00	0.3754	0.0212	0.1629	0.0565	0.4339
16	16.00	0.4378	0.0227	0.1910	0.0519	0.4363
17	18.00	0.4926	0.0241	0.2144	0.0489	0.4352
18	20.00	0.5480	0.0249	0.2394	0.0454	0.4369
19	22.00	0.6052	0.0248	0.2660	0.0410	0.4395
20	24.00	0.6638	0.0242	0.2902	0.0365	0.4372
21	26.00	0.7262	0.0228	0.3154	0.0314	0.4343
22	28.00	0.7857	0.0208	0.3391	0.0265	0.4316
23	0.0	0.0266	0.0045	0.0053	0.1692	0.1992
24	0.0	0.0263	0.0049	0.0063	0.1863	0.2395

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LANGLEY RESEARCH CENTER(NASA) UNITARY PLAN WIND TUNNEL(UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
S 14 1.50 1.8 F36 FIXED

POINT	ALPHA	CNF	CN	CH	XCPF	YCPF
1	-6.00	-0.0541	0.0051	-0.0230	-0.0937	0.4251
2	-4.00	-0.0375	0.0041	-0.0189	-0.1084	0.5048
3	-3.00	-0.0212	0.0033	-0.0137	-0.1572	0.6462
4	-2.00	-0.0075	0.0023	-0.0077	-0.3111	1.0267
5	-1.00	0.0009	0.0017	-0.0046	1.9259	-5.1111
6	0.0	0.0117	0.0011	-0.0011	0.0969	-0.0940
7	1.00	0.0281	0.0003	0.0041	0.0095	0.1459
8	2.00	0.0415	-0.0003	0.0090	-0.0080	0.2169
9	3.00	0.0605	-0.0015	0.0156	-0.0242	0.2579
10	4.00	0.0741	-0.0023	0.0216	-0.0306	0.2915
11	6.00	0.1141	-0.0039	0.0354	-0.0345	0.3103
12	8.00	0.1733	-0.0064	0.0501	-0.0369	0.2891
13	10.00	0.2136	-0.0083	0.0638	-0.0387	0.2987
14	12.00	0.2709	-0.0111	0.0767	-0.0411	0.2831
15	14.00	0.3269	-0.0135	0.0957	-0.0412	0.2927
16	16.00	0.3853	-0.0153	0.1118	-0.0398	0.2902
17	18.00	0.4542	-0.0174	0.1292	-0.0383	0.2845
18	20.00	0.5131	-0.0197	0.1462	-0.0385	0.2849
19	20.00	0.5166	-0.0199	0.1454	-0.0386	0.2815
20	22.00	0.5636	-0.0223	0.1585	-0.0396	0.2812
21	24.00	0.6277	-0.0255	0.1770	-0.0406	0.2820
22	26.00	0.6925	-0.0283	0.1944	-0.0409	0.2807
23	28.00	0.7520	-0.0311	0.2135	-0.0413	0.2839
24	0.0	0.0143	0.0013	-0.0030	0.0886	-0.2098
25	0.0	0.0145	0.0011	-0.0020	0.0782	-0.1379

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
5 15 1.80 1.6 F34 FIXED

POINT	ALPHA	CNF	CM	CB	XCOP	YCOP
1	-6.00	-0.0808	0.0051	-0.0369	-0.0635	0.4567
2	-4.00	-0.0441	0.0038	-0.0246	-0.0862	0.5578
3	-3.00	-0.0282	0.0033	-0.0205	-0.1158	0.7270
4	-2.00	-0.0146	0.0025	-0.0156	-0.1712	1.0541
5	-1.00	-0.0040	0.0018	-0.0099	-0.4500	2.4750
6	0.0	0.0101	0.0007	-0.0064	0.0660	-0.6337
7	1.00	0.0297	-0.0009	-0.0012	-0.0292	-0.0404
8	2.00	0.0404	-0.0015	0.0045	-0.0380	0.1114
9	3.00	0.0486	-0.0021	0.0087	-0.0439	0.1798
10	4.00	0.0672	-0.0029	0.0143	-0.0437	0.2128
11	6.00	0.1014	-0.0042	0.0275	-0.0414	0.2712
12	8.00	0.1464	-0.0057	0.0385	-0.0387	0.2638
13	10.00	0.1891	-0.0075	0.0525	-0.0398	0.2776
14	12.00	0.2349	-0.0097	0.0655	-0.0412	0.2788
15	14.00	0.2923	-0.0107	0.0773	-0.0367	0.2645
16	16.00	0.3448	-0.0124	0.0939	-0.0360	0.2723
17	18.00	0.3930	-0.0144	0.1061	-0.0366	0.2788
18	20.00	0.4464	-0.0165	0.1201	-0.0370	0.2698
19	22.00	0.5047	-0.0185	0.1372	-0.0367	0.2718
20	24.00	0.5604	-0.0205	0.1540	-0.0366	0.2748
21	26.00	0.6135	-0.0227	0.1714	-0.0371	0.2794
22	28.00	0.6725	-0.0253	0.1881	-0.0376	0.2797
23	0.0	0.0101	0.0006	-0.0053	0.0594	-0.5248

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
5 16 2.16 2.5 F36 FIXED

POINT	ALPHA	CNF	CM	CH	XCPF	YCPF
1	-6.00	-0.0381	0.0033	-0.0210	-0.0857	0.5512
2	-6.00	-0.0238	0.0026	-0.0150	-0.1092	0.6303
3	-3.00	-0.0115	0.0019	-0.0101	-0.1681	0.8783
4	-2.00	0.0009	0.0013	-0.0082	1.4815	-6.8889
5	-1.00	0.0136	0.0002	-0.0025	0.0144	-0.1799
6	0.0	0.0264	-0.0007	0.0032	-0.0253	6.1212
7	1.00	0.0366	-0.0011	0.0070	-0.0310	0.1913
8	2.00	0.0506	-0.0017	0.0121	-0.0341	0.2382
9	3.00	0.0666	-0.0021	0.0176	-0.0319	0.2635
10	4.00	0.0870	-0.0027	0.0218	-0.0307	0.2506
11	6.00	0.1214	-0.0039	0.0338	-0.0324	0.2784
12	8.00	0.1620	-0.0055	0.0455	-0.0337	0.2809
13	10.00	0.2057	-0.0077	0.0571	-0.0373	0.2776
14	12.00	0.2517	-0.0087	0.0690	-0.0344	0.2741
15	14.00	0.2954	-0.0098	0.0815	-0.0331	0.2754
16	16.00	0.3449	-0.0117	0.0949	-0.0340	0.2752
17	18.00	0.3920	-0.0138	0.1089	-0.0352	0.2778
18	20.00	0.4434	-0.0159	0.1243	-0.0359	0.2803
19	22.00	0.4926	-0.0182	0.1402	-0.0369	0.2846
20	24.00	0.5437	-0.0201	0.1557	-0.0370	0.2864
21	26.00	0.5965	-0.0219	0.1705	-0.0368	0.2858
22	28.00	0.6496	-0.0238	0.1845	-0.0366	0.2849
23	0.0	0.0244	-0.0006	0.0029	-0.0246	0.1189
24	10.00	0.2077	-0.0077	0.0574	-0.0372	0.2764

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
S 17 1.50 1.8 F11 FIXED

POINT	ALPHA	CMF	CM	CB	XCPR	YCPR
1	-6.00	-0.1463	-0.0286	-0.0676	0.1955	0.4621
2	-4.00	-0.0446	-0.0176	-0.0382	0.2080	0.4515
3	-3.00	-0.0510	-0.0110	-0.0301	0.2157	0.5902
4	-2.00	-0.0191	-0.0022	-0.0100	0.1152	0.5236
5	-1.00	0.0099	0.0033	-0.0074	0.3333	-0.7475
6	0.0	0.0424	0.0109	0.0054	0.2571	0.1274
7	1.00	0.0654	0.0167	0.0166	0.2554	0.2538
8	2.00	0.0936	0.0221	0.0261	0.2361	0.2788
9	3.00	0.1314	0.0283	0.0417	0.2154	0.3174
10	4.00	0.1536	0.0340	0.0597	0.2214	0.3887
11	6.00	0.2358	0.0417	0.0886	0.1768	0.3757
12	8.00	0.3023	0.0482	0.1245	0.1594	0.4118
13	10.00	0.3849	0.0522	0.1597	0.1356	0.4149
14	12.00	0.4545	0.0539	0.1979	0.1186	0.4354
15	14.00	0.5492	0.0537	0.2387	0.0985	0.4378
16	16.00	0.6308	0.0529	0.2760	0.0824	0.4375
17	18.00	0.7144	0.0491	0.3160	0.0687	0.4423
18	20.00	0.7967	0.0463	0.3531	0.0581	0.4432
19	22.00	0.8679	0.0431	0.3907	0.0497	0.4502
20	24.00	0.9529	0.0409	0.4276	0.0429	0.4487
21	26.00	1.0181	0.0369	0.4614	0.0362	0.4532
22	28.00	1.0996	0.0318	0.4879	0.0289	0.4437
23	0.0	0.0432	0.0099	0.0030	0.2292	0.0694
24	0.0	0.0483	0.0102	0.0014	0.2112	0.0298

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LANGLEY RESEARCH CENTER(NASA)

UNITARY PLAN WIND TUNNEL(UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
9 18 1.60 1.8 F11 FIXED

POINT	ALPHA	CNF	CN	CU	XCPF	YCPF
1	-6.00	-0.1489	-0.0147	-0.0769	0.0987	0.5165
2	-4.00	-0.0854	-0.0099	-0.0509	0.1159	0.5960
3	-3.00	-0.0465	-0.0066	-0.0356	0.1419	0.7656
4	-2.00	-0.0226	-0.0036	-0.0247	0.1593	1.0929
5	-1.00	0.0066	-0.0007	-0.0155	-0.1061	-2.3485
6	0.0	0.0356	0.0026	-0.0063	0.0730	-0.1778
7	1.00	0.0545	0.0055	0.0061	0.1009	0.1119
8	2.00	0.0835	0.0088	0.0178	0.1054	0.2132
9	3.00	0.1178	0.0117	0.0277	0.0993	0.2351
10	4.00	0.1412	0.0143	0.0454	0.1013	0.3215
11	6.00	0.2094	0.0190	0.0743	0.0907	0.3548
12	8.00	0.2774	0.0238	0.1055	0.0858	0.3803
13	10.00	0.3453	0.0289	0.1368	0.0837	0.3962
14	12.00	0.4126	0.0337	0.1726	0.0816	0.4181
15	14.00	0.4862	0.0377	0.2021	0.0775	0.4157
16	16.00	0.5552	0.0396	0.2329	0.0713	0.4195
17	18.00	0.6192	0.0407	0.2629	0.0657	0.4246
18	20.00	0.6836	0.0404	0.2951	0.0591	0.4317
19	22.00	0.7488	0.0386	0.3224	0.0515	0.4306
20	24.00	0.8142	0.0351	0.3564	0.0431	0.4377
21	26.00	0.8844	0.0308	0.3862	0.0348	0.4364
22	28.00	0.9502	0.0279	0.4157	0.0294	0.4375
23	0.0	0.0451	0.0044	-0.0023	0.0976	-0.0518
24	0.0	0.0402	0.0036	-0.0031	0.0896	-0.0771

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LANGLEY RESEARCH CENTER (NASA)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

UNITARY PLAN WIND TUNNEL (UPWT)

TEST PART NACH RX10-6 CONF TRANSITION  
5 19 2.16 2.5 F11 FIXED

POINT	ALPHA	CNF	CM	CB	XCPF	YCPF
1	-6.00	-0.0969	-0.0054	-0.0558	0.0557	0.5759
2	-4.00	-0.0399	-0.0037	-0.0313	0.0927	0.7865
3	-3.00	-0.0174	-0.0023	-0.0208	0.1322	1.1954
4	-2.00	0.0089	-0.0006	-0.0097	-0.0674	-1.0899
5	-1.00	0.0312	0.0011	0.0009	0.0353	0.0208
6	0.0	0.0537	0.0028	0.0097	0.0521	0.1806
7	1.00	0.0802	0.0042	0.0190	0.0524	0.2369
8	2.00	0.1101	0.0059	0.0342	0.0536	0.3106
9	3.00	0.1290	0.0065	0.0423	0.0504	0.3279
10	4.00	0.1553	0.0074	0.0550	0.0476	0.3542
11	6.00	0.2159	0.0091	0.0835	0.0421	0.3868
12	8.00	0.2728	0.0108	0.1115	0.0396	0.4087
13	10.00	0.3415	0.0126	0.1429	0.0369	0.4184
14	12.00	0.4022	0.0146	0.1678	0.0363	0.4172
15	14.00	0.4620	0.0171	0.2016	0.0370	0.4304
16	16.00	0.5301	0.0205	0.2296	0.0387	0.4331
17	18.00	0.6022	0.0239	0.2544	0.0397	0.4225
18	20.00	0.6704	0.0262	0.2858	0.0391	0.4263
19	22.00	0.7312	0.0262	0.3157	0.0358	0.4318
20	24.00	0.7927	0.0257	0.3438	0.0324	0.4337
21	26.00	0.8504	0.0246	0.3713	0.0289	0.4366
22	28.00	0.9160	0.0236	0.3963	0.0258	0.4326
23	0.0	0.0537	0.0031	0.0097	0.0577	0.1806

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LANGLEY RESEARCH CENTER(NASA)

UNITARY PLAN WIND TUNNEL(UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
5 20 1.50 1.8 F15 FIXED

POINT	ALPHA	CNF	CM	CB	XCPF	YCPF
1	-6.00	-0.1619	-0.0131	-0.0658	0.0812	0.4064
2	-4.00	-0.0929	-0.0081	-0.0385	0.0871	0.4144
3	-3.00	-0.0661	-0.0042	-0.0264	0.0655	0.4119
4	-2.00	-0.0297	-0.0009	-0.0162	0.0288	0.5455
5	-1.00	-0.0006	0.0022	-0.0043	-3.6294	7.1667
6	0.0	0.0343	0.0055	0.0013	0.1610	0.0379
7	1.00	0.0580	0.0089	0.0148	0.1529	0.2552
8	2.00	0.0919	0.0128	0.0276	0.1396	0.3003
9	3.00	0.1263	0.0159	0.0401	0.1256	0.3175
10	4.00	0.1658	0.0184	0.0533	0.1107	0.3215
11	6.00	0.2450	0.0223	0.0889	0.0911	0.3629
12	8.00	0.3211	0.0239	0.1189	0.0741	0.3793
13	10.00	0.4138	0.0239	0.1502	0.0577	0.3823
14	12.00	0.4953	0.0226	0.1753	0.0455	0.3943
15	14.00	0.5865	0.0198	0.2258	0.0337	0.3850
16	16.00	0.6587	0.0162	0.2635	0.0246	0.4080
17	18.00	0.7469	0.0124	0.2938	0.0166	0.3934
18	20.00	0.8349	0.0068	0.3257	0.0082	0.3901
19	22.00	0.9082	0.0019	0.3560	0.0021	0.3928
20	24.00	0.9726	-0.0039	0.3781	-0.0039	0.3809
21	26.00	1.0885	-0.0122	0.4012	-0.0112	0.3686
22	28.00	1.1464	-0.0180	0.4219	-0.0157	0.3600
23	0.0	0.0342	0.0055	0.0013	0.1615	0.0380



LANGLEY RESEARCH CENTER(NASA)

UNITARY PLAN WIND TUNNEL(UPWT)

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MARTIN MISSILE TAIL EFFECTS DATA

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SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION

5 21 1.80 1.8 FIS FIXED

POINT	ALPHA	CMF	CM	CB	ACPF	YCPF
1	-6.00	-0.1277	-0.0061	-0.0616	0.0481	0.4824
2	-4.00	-0.0830	-0.0047	-0.0457	0.0572	0.5506
3	-3.00	-0.0532	-0.0033	-0.0317	0.0629	0.5959
4	-2.00	-0.0183	-0.0011	-0.0240	0.0595	1.3115
5	-1.00	0.0060	0.0005	-0.0132	0.0907	-2.2000
6	0.0	0.0306	0.0019	-0.0024	0.0635	-0.0784
7	1.00	0.0604	0.0033	0.0068	0.0554	0.1126
8	2.00	0.0850	0.0050	0.0152	0.0586	0.1788
9	3.00	0.1145	0.0064	0.0267	0.0557	0.2332
10	4.00	0.1443	0.0072	0.0405	0.0501	0.2807
11	6.00	0.2090	0.0086	0.0686	0.0413	0.3282
12	8.00	0.2896	0.0089	0.0986	0.0309	0.3405
13	10.00	0.3597	0.0085	0.1293	0.0236	0.3595
14	12.00	0.4303	0.0074	0.1576	0.0172	0.3663
15	14.00	0.5014	0.0055	0.1882	0.0110	0.3753
16	16.00	0.5730	0.0037	0.2141	0.0064	0.3736
17	18.00	0.6343	0.0015	0.2386	0.0023	0.3762
18	20.00	0.7054	-0.0012	0.2640	-0.0018	0.3743
19	22.00	0.7717	-0.0042	0.2888	-0.0054	0.3742
20	24.00	0.8395	-0.0086	0.3137	-0.0102	0.3737
21	26.00	0.9074	-0.0127	0.3339	-0.0140	0.3680
22	28.00	0.9710	-0.0173	0.3559	-0.0179	0.3665
23	0.0	0.0303	0.0022	-0.0024	0.0719	-0.0792

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART NACH RX10-6 CONF TRANSITION.  
5 22 2.16 2.5 F15 FIXED

POINT	ALPHA	CNF	CM	CB	XCPR	YCPR
1	-6.00	-0.0875	-0.0018	-0.0414	0.0204	0.4731
2	-4.00	-0.0564	-0.0015	-0.0316	0.0262	0.5603
3	-3.00	-0.0337	-0.0009	-0.0211	0.0254	0.6261
4	-2.00	-0.0430	-0.0002	-0.0114	0.0778	3.8000
5	-1.00	0.0199	0.0005	-0.0008	0.0234	-0.0402
6	0.0	0.0469	0.0009	0.0085	0.0182	0.1812
7	1.00	0.0695	0.0015	0.0172	0.0213	0.2475
8	2.00	0.0467	0.0019	0.0283	0.0201	0.2927
9	3.00	0.1239	0.0024	0.0395	0.0195	0.3188
10	4.00	0.1506	0.0026	0.0505	0.0175	0.3349
11	6.00	0.2084	0.0023	0.0764	0.0108	0.3666
12	8.00	0.2704	0.0010	0.1027	0.0037	0.3798
13	10.00	0.3326	-0.0002	0.1272	-0.0007	0.3824
14	12.00	0.3956	-0.0021	0.1500	-0.0053	0.3792
15	14.00	0.4544	-0.0040	0.1741	-0.0087	0.3827
16	16.00	0.5219	-0.0062	0.1955	-0.0119	0.3746
17	18.00	0.5806	-0.0087	0.2192	-0.0150	0.3775
18	20.00	0.6432	-0.0117	0.2432	-0.0181	0.3781
19	22.00	0.7067	-0.0146	0.2658	-0.0207	0.3761
20	24.00	0.7782	-0.0173	0.2840	-0.0223	0.3649
21	26.00	0.8381	-0.0203	0.3080	-0.0242	0.3675
22	28.00	0.9053	-0.0234	0.3253	-0.0259	0.3593
23	0.0	0.0469	0.0009	0.0085	0.0182	0.1812

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART MACH PR10-6 CONF TRANSITION  
5 23 1.50 1.6 F14 FIXED

POINT	ALPHA	CNF	CM	CB	XCPCF	YCPCF
1	-6.00	-0.1046	0.0059	-0.0434	-0.0559	0.4137
2	-4.00	-0.0576	0.0040	-0.0255	-0.0692	0.4412
3	-3.00	-0.0371	0.0033	-0.0158	-0.0881	0.4259
4	-2.00	-0.0221	0.0026	-0.0045	-0.1176	0.2036
5	-1.00	0.0041	0.0017	0.0012	0.4065	0.2927
6	0.0	0.0247	0.0013	0.0086	0.0540	0.3482
7	1.00	0.0454	0.0007	0.0136	0.0162	0.2996
8	2.00	0.0709	0.0	0.0216	0.0	0.3047
9	3.00	0.0967	-0.0009	0.0367	-0.0090	0.3795
10	4.00	0.1232	-0.0014	0.0427	-0.0114	0.3466
11	6.00	0.1746	-0.0029	0.0659	-0.0164	0.3774
12	8.00	0.2309	-0.0041	0.0850	-0.0179	0.3601
13	10.00	0.2976	-0.0059	0.1052	-0.0199	0.3535
14	12.00	0.3643	-0.0079	0.1254	-0.0218	0.3442
15	14.00	0.4315	-0.0112	0.1451	-0.0260	0.3363
16	16.00	0.5126	-0.0169	0.1735	-0.0329	0.3385
17	18.00	0.5897	-0.0201	0.1907	-0.0341	0.3234
18	20.00	0.6654	-0.0233	0.2123	-0.0351	0.3191
19	22.00	0.7388	-0.0273	0.2375	-0.0370	0.3215
20	24.00	0.8014	-0.0310	0.2565	-0.0387	0.3201
21	26.00	0.8692	-0.0351	0.2763	-0.0404	0.3202
22	28.00	0.9312	-0.0387	0.2970	-0.0416	0.3189
23	0.0	0.0248	0.0013	0.0062	0.0511	0.2500

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
5 24 1.60 1.8 F14 FIXED

POINT	ALPHA	CNF	CM	CU	XCPF	YCPF
1	-6.00	-0.0970	0.0029	-0.0431	-0.0296	0.4443
2	-4.00	-0.0514	0.0025	-0.0250	-0.0493	0.4864
3	-3.00	-0.0311	0.0023	-0.0176	-0.0750	0.5659
4	-2.00	-0.0107	0.0022	-0.0125	-0.2056	1.1602
5	-1.00	0.0047	0.0017	-0.0059	0.3546	-1.2553
6	0.0	0.0200	0.0011	0.0008	0.0567	0.0400
7	1.00	0.0405	0.0007	0.0059	0.0181	0.1457
8	2.00	0.0608	0.0006	0.0133	0.0099	0.2187
9	3.00	0.0761	0.0002	0.0200	0.0026	0.2628
10	4.00	0.1016	-0.0001	0.0281	-0.0013	0.2766
11	6.00	0.1524	-0.0009	0.0466	-0.0057	0.3058
12	8.00	0.2030	-0.0019	0.0673	-0.0095	0.3315
13	10.00	0.2596	-0.0032	0.0817	-0.0123	0.3147
14	12.00	0.3114	-0.0052	0.1000	-0.0167	0.3211
15	14.00	0.3740	-0.0075	0.1148	-0.0201	0.3070
16	16.00	0.4306	-0.0093	0.1314	-0.0217	0.3052
17	18.00	0.4923	-0.0117	0.1483	-0.0237	0.3012
18	20.00	0.5492	-0.0142	0.1670	-0.0259	0.3041
19	22.00	0.6069	-0.0167	0.1835	-0.0276	0.3024
20	24.00	0.6646	-0.0201	0.2044	-0.0302	0.3076
21	26.00	0.7265	-0.0225	0.2213	-0.0310	0.3046
22	28.00	0.7780	-0.0253	0.2391	-0.0325	0.3073
23	0.0	0.0198	0.0013	0.0008	0.0640	0.0404

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LANGLEY RESEARCH CENTER (NASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART NACH RX10-6 CONF TRANSITION  
S 25 2.16 2.5 F14 FIXED

POINT	ALPHA	CNF	CM	CB	XCPF	YCPF
1	-6.00	-0.0788	0.0031	-0.0333	-0.0389	0.4226
2	-6.00	-0.0396	0.0019	-0.0157	-0.0486	0.3945
3	-3.00	-0.0202	0.0017	-0.0094	-0.0825	0.4653
4	-2.00	-0.0004	0.0011	-0.0033	-2.8333	0.2500
5	-1.00	0.0155	0.0004	0.0023	0.0250	0.1484
6	0.0	0.0352	-0.0003	0.0102	-0.0076	0.2898
7	1.00	0.0507	-0.0005	0.0177	-0.0105	0.3491
8	2.00	0.0743	-0.0009	0.0244	-0.0126	0.3284
9	3.00	0.0937	-0.0013	0.0341	-0.0142	0.3639
10	4.00	0.1173	-0.0019	0.0408	-0.0145	0.3478
11	6.00	0.1645	-0.0029	0.0560	-0.0174	0.3404
12	8.00	0.2080	-0.0043	0.0724	-0.0205	0.3481
13	10.00	0.2553	-0.0059	0.0873	-0.0232	0.3420
14	12.00	0.3034	-0.0083	0.1021	-0.0272	0.3365
15	14.00	0.3601	-0.0111	0.1144	-0.0307	0.3177
16	16.00	0.4080	-0.0131	0.1275	-0.0320	0.3125
17	18.00	0.4559	-0.0157	0.1421	-0.0344	0.3117
18	20.00	0.5120	-0.0183	0.1579	-0.0358	0.3084
19	22.00	0.5642	-0.0209	0.1751	-0.0378	0.3104
20	24.00	0.6165	-0.0234	0.1922	-0.0380	0.3118
21	26.00	0.6725	-0.0261	0.2079	-0.0389	0.3091
22	28.00	0.7324	-0.0291	0.2222	-0.0397	0.3034
23	0.0	0.0351	-0.0003	0.0102	-0.0076	0.2906

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LANGLEY RESEARCH CENTER (NASA) UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART NACH RX10-6 CONF TRANSITION  
5 26 1.50 1.8 F13 FIXED

POINT	ALPHA	CNF	CM	CH	XCPF	YCPF
1	-6.00	-0.2433	-0.0141	-0.1058	0.0579	0.4349
2	-4.00	-0.1606	-0.0103	-0.0696	0.0644	0.4334
3	-3.00	-0.1087	-0.0067	-0.0475	0.0615	0.4370
4	-2.00	-0.0615	-0.0027	-0.0243	0.0443	0.3951
5	-1.00	-0.0094	0.0016	-0.0035	-0.1737	0.3723
6	0.0	0.0-31	0.0053	0.0144	0.1227	0.3341
7	1.00	0.0990	0.0100	0.0384	0.1005	0.3879
8	2.00	0.1514	0.0132	0.0577	0.0873	0.3611
9	3.00	0.1943	0.0170	0.0804	0.0873	0.4138
10	4.00	0.2428	0.0193	0.1072	0.0794	0.4289
11	6.00	0.3486	0.0217	0.1460	0.0622	0.4188
12	8.00	0.4488	0.0224	0.1930	0.0499	0.4299
13	10.00	0.5592	0.0212	0.2407	0.0370	0.4304
14	12.00	0.6338	0.0156	0.2810	0.0309	0.4433
15	14.00	0.7314	0.0164	0.3217	0.0224	0.4395
16	16.00	0.8179	0.0122	0.3559	0.0149	0.4351
17	18.00	0.8946	0.0083	0.3863	0.0093	0.4316
18	20.00	0.9855	0.0022	0.4203	0.0022	0.4265
19	22.00	1.0665	-0.0043	0.4503	-0.0040	0.4223
20	24.00	1.1474	-0.0108	0.4774	-0.0094	0.4161
21	26.00	1.2296	-0.0170	0.4993	-0.0138	0.4061
22	28.00	1.2645	-0.0202	0.5180	-0.0157	0.4033
23	0.0	0.0474	0.0050	0.0176	0.1050	0.3713

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LANGLEY RESEARCH CENTER (NASA)  
UNITARY PLAN WIND TUNNEL (UPWT)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

TEST PART NACH RX10-6 CONF TRANSITION  
5 27 1.60 1.0 F13 FIXED

POINT	ALPHA	CNF	CN	CB	XCPF	YCPF
1	-6.00	-0.2176	0.0001	-0.1037	-0.0004	0.4766
2	-4.00	-0.1443	0.0002	-0.0664	-0.0011	0.4602
3	-3.00	-0.1004	0.0002	-0.0484	-0.0023	0.4821
4	-2.00	-0.0562	0.0005	-0.0316	-0.0097	0.5623
5	-1.00	-0.0170	0.0006	-0.0126	-0.0366	0.7412
6	0.0	0.0223	0.0003	0.0049	0.0139	0.2197
7	1.00	0.0621	0.0001	0.0197	0.0013	0.3172
8	2.00	0.1061	0.0005	0.0378	0.0044	0.3563
9	3.00	0.1455	0.0005	0.0560	0.0032	0.3904
10	4.00	0.1845	0.0005	0.0771	0.0030	0.4179
11	6.00	0.2673	0.0012	0.1126	0.0047	0.4212
12	8.00	0.3500	0.0019	0.1495	0.0056	0.4271
13	10.00	0.4379	0.0024	0.1841	0.0055	0.4283
14	12.00	0.5215	0.0028	0.2212	0.0054	0.4241
15	14.00	0.6012	0.0029	0.2523	0.0048	0.4196
16	16.00	0.6710	0.0023	0.2879	0.0034	0.4290
17	18.00	0.7458	0.0016	0.3153	0.0022	0.4227
18	20.00	0.8161	0.0001	0.3451	0.0001	0.4228
19	22.00	0.8876	-0.0028	0.3721	-0.0032	0.4192
20	24.00	0.9553	-0.0066	0.3987	-0.0069	0.4174
21	26.00	1.0191	-0.0105	0.4209	-0.0103	0.4131
22	28.00	1.0819	-0.0144	0.4470	-0.0133	0.4132
23	0.0	0.0268	0.0003	0.0053	0.0116	0.1978

LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

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MARTIN MISSILE TAIL EFFECTS DATA

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SPLITTER PLATE DATA

TEST PART MACH RX10-6 CONF TRANSITION  
5 20 2.16 2.5 F13 FIXED

POINT	ALPHA	CNF	CM	CB	XCPF	YCPF
1	-6.00	-0.1482	0.0023	-0.0692	-0.0157	0.4669
2	-4.00	-0.0770	0.0014	-0.0413	-0.0182	0.5364
3	-3.00	-0.0501	0.0009	-0.0259	-0.0186	0.5170
4	-2.00	-0.0165	0.0007	-0.0122	-0.0424	0.7394
5	-1.00	0.0175	0.0002	0.0016	0.0133	0.0914
6	0.0	0.0478	0.0001	0.0151	0.0016	0.3159
7	1.00	0.0774	-0.0002	0.0297	-0.0020	0.3813
8	2.00	0.1219	-0.0006	0.0476	-0.0051	0.3905
9	3.00	0.1455	-0.0009	0.0594	-0.0059	0.4082
10	4.00	0.1796	-0.0013	0.0732	-0.0074	0.4076
11	6.00	0.2469	-0.0018	0.1029	-0.0072	0.4168
12	8.00	0.3177	-0.0022	0.1329	-0.0069	0.4183
13	10.00	0.3685	-0.0021	0.1640	-0.0054	0.4221
14	12.00	0.4525	-0.0023	0.1935	-0.0052	0.4275
15	14.00	0.5273	-0.0023	0.2229	-0.0043	0.4226
16	16.00	0.5413	-0.0032	0.2521	-0.0054	0.4263
17	18.00	0.6624	-0.0049	0.2818	-0.0074	0.4254
18	20.00	0.7381	-0.0061	0.3068	-0.0082	0.4156
19	22.00	0.8104	-0.0083	0.3336	-0.0103	0.4115
20	24.00	0.8826	-0.0110	0.3590	-0.0125	0.4066
21	26.00	0.9513	-0.0139	0.3839	-0.0146	0.4035
22	28.00	1.0173	-0.0177	0.4087	-0.0174	0.4010
23	0.0	0.0506	0.0001	0.0175	0.0019	0.3438



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LANGLEY RESEARCH CENTER (NASA)  
MARTIN MISSILE TAIL EFFECTS DATA  
SPLITTER PLATE DATA

UNITARY PLAN WIND TUNNEL (UPWT)

TEST PART MACH RX10-6 CONF TRANSITION  
5 29 1.50 1.8 F16 FIXED

POINT	ALPHA	CMF	CM	CB	XCPF	YCPF
1	-6.00	-0.2252	-0.0297	-0.0943	0.1319	0.4187
2	-4.00	-0.1480	-0.0213	-0.0627	0.1439	0.4234
3	-3.00	-0.0933	-0.0149	-0.0407	0.1597	0.4362
4	-2.00	-0.0465	-0.0079	-0.0233	0.1699	0.5011
5	-1.00	0.0052	-0.0004	-0.0038	-0.0769	-0.7308
6	0.0	0.0516	0.0075	0.0209	0.1453	0.4050
7	1.00	0.0484	0.0145	0.0398	0.1474	0.4045
8	2.00	0.1491	0.0224	0.0633	0.1502	0.4245
9	3.00	0.2057	0.0286	0.0817	0.1390	0.3972
10	4.00	0.2391	0.0330	0.1063	0.1380	0.4444
11	6.00	0.3347	0.0406	0.1481	0.1213	0.4425
12	8.00	0.4401	0.0451	0.1904	0.1025	0.4326
13	10.00	0.5210	0.0495	0.2373	0.0950	0.4555
14	12.00	0.6127	0.0509	0.2793	0.0831	0.4559
15	14.00	0.7046	0.0509	0.3226	0.0722	0.4578
16	16.00	0.7636	0.0510	0.3607	0.0651	0.4602
17	18.00	0.8679	0.0520	0.3995	0.0599	0.4603
18	20.00	0.9430	0.0517	0.4372	0.0548	0.4636
19	22.00	1.0276	0.0505	0.4700	0.0491	0.4574
20	24.00	1.1027	0.0470	0.5028	0.0426	0.4560
21	26.00	1.1739	0.0410	0.5365	0.0349	0.4570
22	28.00	1.2421	0.0323	0.5612	0.0260	0.4510
23	0.0	0.0655	0.0075	0.0179	0.1145	0.2733
24	0.0	0.0515	0.0075	0.0194	0.1456	0.3767

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LANGLEY RESEARCH CENTER (NASA)

UNITARY PLAN WIND TUNNEL (UPWT)

MARTIN MISSILE TAIL EFFECTS DATA

SPLITTER PLATE DATA

TEST PART MACH RX10-B CONF TRANSITION  
5 30 1.00 1.8 F16 FIXED

POINT	ALPHA	CNF	CM	CB	XCPV	YCPV
1	-6.00	-0.1721	-0.0059	-0.0802	0.0343	0.4660
2	-4.00	-0.1194	-0.0045	-0.0612	0.0377	0.5126
3	-3.00	-0.0853	-0.0036	-0.0428	0.0422	0.5018
4	-2.00	-0.0421	-0.0022	-0.0263	0.0523	0.6247
5	-1.00	-0.0034	-0.0013	-0.0074	0.3824	2.1785
6	0.0	0.0356	-0.0004	0.0102	-0.0112	0.2865
7	1.00	0.0742	0.0010	0.0254	0.0126	0.3207
8	2.00	0.1134	0.0019	0.0425	0.0168	0.3748
9	3.00	0.1565	0.0032	0.0604	0.0204	0.3859
10	4.00	0.1908	0.0046	0.0803	0.0241	0.4209
11	6.00	0.2790	0.0073	0.1193	0.0263	0.4291
12	8.00	0.3605	0.0113	0.1581	0.0313	0.4386
13	10.00	0.4556	0.0162	0.1963	0.0356	0.4309
14	12.00	0.5399	0.0231	0.2376	0.0428	0.4401
15	14.00	0.6156	0.0301	0.2769	0.0489	0.4497
16	16.00	0.6941	0.0337	0.3109	0.0488	0.4479
17	18.00	0.7643	0.0346	0.3440	0.0453	0.4501
18	20.00	0.8300	0.0343	0.3779	0.0413	0.4553
19	22.00	0.9084	0.0326	0.4109	0.0359	0.4523
20	24.00	0.9773	0.0318	0.4431	0.0325	0.4534
21	26.00	1.0430	0.0314	0.4726	0.0301	0.4531
22	28.00	1.1094	0.0302	0.4996	0.0272	0.4501
23	0.0	0.0357	-0.0004	0.0088	-0.0112	0.2465
24	10.00	0.4540	0.0165	0.1971	0.0363	0.4341

PAGE 1 OF 1  
SHEET 1 OF 1

LANGLEY RESEARCH CENTER (NASA)  
MARTIN MISSILE TAIL EFFECTS DATA  
UNITARY PLAN WIND TUNNEL (UPWT)  
SPLITTER PLATE DATA

TEST PART WACH RX10-6 CONF TRANSITION  
5 31 2.16 2.5 F16 FIXED

POINT	ALPHA	CNF	CM	CS	XCPF	YCPF
1	-6.00	-0.1087	-0.0028	-0.0528	0.0258	0.4857
2	-4.00	-0.0757	-0.0024	-0.0370	0.0317	0.4888
3	-3.00	-0.0426	-0.0021	-0.0234	0.0493	0.5493
4	-2.00	-0.0093	-0.0014	-0.0085	0.1505	0.9140
5	-1.00	0.0204	-0.0003	0.0040	-0.0144	0.1923
6	0.0	0.0507	0.0001	0.0186	0.0020	0.3669
7	1.00	0.0806	0.0008	0.0320	0.0099	0.3970
8	2.00	0.1139	0.0011	0.0458	0.0097	0.4021
9	1.00	0.0838	0.0008	0.0356	0.0095	0.4248
10	2.00	0.1104	0.0012	0.0476	0.0109	0.4312
11	3.00	0.1473	0.0019	0.0618	0.0129	0.4196
12	4.00	0.1770	0.0026	0.0773	0.0147	0.4367
13	6.00	0.2439	0.0037	0.1082	0.0152	0.4436
14	8.00	0.3140	0.0047	0.1403	0.0150	0.4468
15	10.00	0.3870	0.0065	0.1738	0.0168	0.4491
16	12.00	0.4588	0.0082	0.2058	0.0180	0.4505
17	14.00	0.5336	0.0103	0.2419	0.0193	0.4533
18	16.00	0.6177	0.0134	0.2745	0.0217	0.4444
19	18.00	0.6940	0.0178	0.3085	0.0256	0.4445
20	20.00	0.7700	0.0222	0.3446	0.0288	0.4475
21	22.00	0.8432	0.0235	0.3757	0.0279	0.4456
22	24.00	0.9103	0.0243	0.4074	0.0267	0.4475
23	26.00	0.9741	0.0240	0.4388	0.0248	0.4505
24	28.00	1.0355	0.0230	0.4679	0.0222	0.4519
25	0.0	0.0540	0.0004	0.0189	0.0074	0.3508

Listing of Part Numbers for the Tabulated Data of Test No. 1\*

CONF	L	DEL1	DEL2	DEL3	DEL4	PHI	TRANSITION	R x 10 <sup>-6</sup>	α	β	Part Number																	
											M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>
											0.20	0.40	0.50	0.60	0.80	0.85	0.92	0.94	0.95	0.96	0.98	1.00	1.05	1.10	1.20	1.30		
B4WOF12	0	0	0	0	0	0	Unknown	2.3	Vary	0					(4)	5	(8)	9		10	(14)		15	(16)	17	18		
B4WOF13														(22)	24	(30)	31		32	(33)		34	(35)	(36)	(37)			
B4WOF16														(42)	43	(44)	45		46	(47)		48	(49)	(50)	(51)			
B4WOF22														(57)	58	(61)			(62)			(64)	(65)	(66)				
B4WOF23														(71)	72	(73)			(74)			(75)	(76)	(77)				
B4WOF21														(82)	83	(84)			(87)			(90)	(91)	(92)				
B4WOF35														(97)	98	(99)			(100)			(103)	(104)	(105)				
B4WOF34														(111)	112	(115)			(117)			(118)	(119)	(120)				
B4WOF33														(125)	126	(127)	128		129	(131)			(132)	(133)	(134)			
B4WOF32														(139)	140	(141)	142		143	(144)			(150)	(151)	(152)			
B4WOF31														(156)	157	(158)			(159)			(160)	(161)	(162)				
B4WOF11														(166)	167	(168)	169		170	(171)			(172)	(173)	(174)			
B2WOF0	OFF	OFF	OFF	OFF										(178)	179	(180)			(181)			(182)	(183)	(184)				
B5WOF0														(187)	188	(189)			(190)			(191)	(192)	(193)				
B4WOF0														(196)	197	(198)			(199)			(200)	(201)	(202)				
								Vary	23.5				205															
									12.0									206										
									9.0																207			
								3.9	30.0			210		211	212						213			214				
								2.0			220	219		218	217							216	215					
								3.8	Vary				223															

\* No Tall Fin Data Presented

## Listing of Part Numbers for the Tabulated Data of Test No. 2\*

CONF	L	DEL1	DEL2	DEL3	DEL4	PHI	TRANSITION	R x 10 <sup>-6</sup>	$\alpha$	$\beta$	Part Number								
											M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>
											0.59	0.80	0.85	0.92	0.98	1.10	1.20	1.29	1.30
83WOF0	0	OFF	OFF	OFF	OFF	0	Free	0.3	Vary	0	5								
								0.4			7								
								0.7			8								
								1.1			9								
								1.3			10								
								1.8			11								
								2.6			12								
								3.5			14								
								4.3			15								
								4.9			16								
83WOF15		0	0	0	0		Fixed	0.3			24								
								0.4			26								
								0.7			27								
								1.1			31								
								1.3			32								
								3.4			33								
						180		0.3			36								
								0.4			37								
								0.7			38								
								1.1			39								
								1.3			40								
								3.4			41								
						0	Free	0.4			47								
								0.7			48								
								1.1			49								
								3.4			50								
								2.5				(57)	58	(59)	(60)	(61)	(62)	63	
83WOF14												(69)	70	(71)	(72)	(73)	(74)		(75)
83WOF21												(80)	81	(82)	(83)	(84)	(85)		(86)
83WOF36												(91)	92	(93)	(94)	(95)	(96)		(98)
83WOF32												(105)	106	(107)	(108)	(109)	(110)		(111)
						Splitter Plate Offset Angle													
BOWOF14	—	—	—	—	—	0	Free	2.5	Vary	—	(123)	155	(162)	(171)	(130)	(144)		(137)	
						15							(163)						
						30					(124)	156	(164)	(172)	(131)	(145)		(138)	
						60					(125)	157	(165)	(173)	(132)	(146)		(139)	
						90					(126)	158	(167)	(174)	(133)	(147)		(140)	
						120					(127)	159	(168)	(175)	(134)	(148)		(141)	
						150					(128)	160	(169)	(176)	(135)	(149)		(142)	
						180					(129)	161	(170)	(177)	(150)		(143)		
BOWOF11						0					(184)	194	(201)	(272)	(279)	(287)		(294)	
						30					(185)	195	(202)	(273)	(280)	(288)		(295)	
						60					(186)	196	(203)	(274)	(281)	(289)		(296)	
						90					(187)	197	(204)	(275)	(282)	(290)		(297)	
						120					(188)	198	(269)	(276)	(283)	(291)		(298)	
						150					(189)	199	(270)	(277)	(284)	(292)		(299)	
						180							(285)						
BOWOF36						0					(190)	200	(271)	(278)	(286)	(293)		(300)	
						15					(206)	215	(223)	(230)	(240)	(247)		(257)	
						30													
						60					(209)	217	(224)	(231)	(241)	(248)		(259)	
						90					(210)	218	(225)	(234)	(242)	(249)		(260)	
						120					(211)	219	(226)	(235)	(243)	(250)		(261)	
						150					(212)	220	(227)	(236)	(244)	(251)		(262)	
						180					(213)	221	(228)	(237)	(245)	(252)		(263)	
											(214)	222	(229)	(238)	(246)	(253)		(264)	

\* After Part Number 111, Only Splitter Plate Data Presented

Listing of Part Numbers for the Tabulated Data of Test No. 3\*

CONF	L	DEL1	DEL2	DEL3	DEL4	PHI	TRANSITION	R x 10 <sup>-6</sup>	$\alpha$	$\beta$	Part Number			
											M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>
											2.36	2.86	3.95	4.63
BIWOF35	0	0	0	0	0	0	Fixed	3.0	Vary	0	(19)	(22)	(24)	(25)
↓		↓	↓	↓	↓	45		↓			(20)	(21)	(23)	(26)
			-20		-20	0					27	28	29	30
↓		20		20		45		2.5			31			
								3.0				32	33	34
BIWOF34								2.5			35			
↓								3.0				36	37	38
		0		0		0					39	40	41	42
BIWOF33											43	44	45	46
↓		20		20		45		2.5			47			
								3.0				48	49	50
↓		0	0	0	0	0		2.9			(51)			
						45					(52)			
↓								3.2				(53)		
						0					(54)			
↓						45		3.0					(55)	(58)
						0							(56)	(57)
BIWOF34											(59)	(62)	(64)	(65)
↓						45					(60)	(61)	(63)	(66)
BIWIF34	15.42										68	69	71	74
↓						0					(67)	(70)	(72)	(73)
		0	-20	0	-20						75	76	77	78
↓		20		20		45		2.5			79			
								3.0				80	81	82
BIWIF0		OFF	OFF	OFF	OFF						84	85	89	92
↓						0					(83)	(86)	(90)	(91)
BIWOF0	0										(93)	(94)	(95)	

\* No Tail Fin Data Presented

Listing of Part Numbers for the Tabulated Data of Test No. 4\*

CONF	L	DEL1	DEL2	DEL3	DEL4	PHI	TRANSITION	R x 10 <sup>-6</sup>	$\alpha$	$\beta$	Part Number			
											M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>
											2.36	2.86	3.95	4.63
B2WOF34	0	0	0	0	0	0	Fixed	3.0	Vary	0	(2)	(5)	(7)	(8)
↓						-90					3	4	6	9
B2WOF35						0					(12)	(11)	(13)	(10)
B2WOF33											(16)	(17)	(14)	(15)
B2WOF34			-20		-20						18	19	20	21
B2WOF35											22	23	24	25
B2WOF33												26		
↓		20	0	20	0	-90						28	29	30
↓								2.0			27			
B2WOF31								3.0			(34)	(35)	(36)	(37)
B2WOF32											(38)	(39)	(40)	(41)
B2WOF36											(43)	(42)	(44)	(45)

\* No Tail Fin Data Presented

Listing of Part Numbers for the Tabulated Data of Test No. 5\*

CONF	L	DEL1	DEL2	DEL3	DEL4	PHI	TRANSITION	R x 10 <sup>-6</sup>	$\alpha$	$\beta$	Part Number		
											M <sub>∞</sub>	M <sub>∞</sub>	M <sub>∞</sub>
											1.50	1.80	2.16
BOWOF35	—	—	—	—	—	—	Fixed	1.8	Vary	—	(2)	(3)	
↓								2.5					(4)
BOWOF34								1.8			(5)	(6)	
↓								2.5					(7)
BOWOF31								1.8			(8)	(9)	
↓								2.5					(10)
BOWOF32								1.8			(11)	(12)	
↓								2.5					(13)
BOWOF36								1.8			(14)	(15)	
↓								2.5					(16)
BOWOF11								1.8			(17)	(18)	
↓								2.5					(19)
BOWOF15								1.8			(20)	(21)	
↓								2.5					(22)
BOWOF14								1.8			(23)	(24)	
↓								2.5					(25)
BOWOF13								1.8			(26)	(27)	
↓								2.5					(28)
BOWOF16								1.8			(29)	(30)	
↓								2.5					(31)

\* Only Splitter Plate Data Presented



## NOMENCLATURE

A	Streamwise length of beveled portion of fin leading edge, in. (see Fig. 6)
ALPHA ( $\alpha$ )	Model angle of attack, deg
AR	Fin aspect ratio, $b^2/S_F$
B	Streamwise length of beveled portion of fin trailing edge, in. (see Fig. 6)
BETA ( $\beta$ )	Model angle of sideslip, deg
b	Tail fin span, measured from the root chord to the tip, in. (see Fig. 6)
CA	Axial-force coefficient, measured axial force/ $q_\infty S$
CAB	Base axial-force coefficient, $(p_\infty - p_b)/q_\infty$
CAF	Forebody axial-force coefficient, $CA - CAB$
CB	Splitter plate tail fin root bending-moment coefficient, fin bending moment/ $q_\infty S_F b$
CB1, CB2, CB3, CB4	Root bending-moment coefficient of tail fins No. 1, 2, 3, and 4, respectively, fin bending moment/ $q_\infty S_F b$
CH	Splitter plate tail fin hinge-moment coefficient, hinge moment/ $q_\infty S_F C_R$
CH1, CH2, CH3, CH4	Hinge-moment coefficients of tail fins No. 1, 2, 3, and 4, respectively, fin hinge moment/ $q_\infty S_F C_R$
CLL	Rolling-moment coefficient, rolling moment/ $q_\infty S d$
CLM	Pitching-moment coefficient, pitching moment/ $q_\infty S d$ (moment reference point located on centerline at 50 percent of model body length)
CLN	Yawing-moment coefficient, yawing moment/ $q_\infty S d$
CN	Normal-force coefficient, normal force/ $q_\infty S$

CNF	Splitter plate tail fin normal-force coefficient, fin normal force/ $q_{\infty} S_F$
CNF1, CNF2, CNF3, CNF4	Normal-force coefficient of tail fins No. 1, 2, 3, and 4, respectively, fin normal force/ $q_{\infty} S_F$
CONF	Model configuration identification
$C_R$	Tail fin root chord, in. (see Fig. 6)
$C_T$	Tail fin tip chord, in. (see Fig. 6)
$C_Y$	Side-force coefficient, side force/ $q_{\infty} S$
d	Model body maximum diameter, in. (see Fig. 3)
DEL1, DEL2, DEL3, DEL4	Deflection of tail fins No. 1, 2, 3, and 4, respectively, deg
L	Distance between model nose and the intersection of the wing leading edge with the body (measured parallel to the body centerline), in.
MACH ( $M_{\infty}$ )	Nominal free-stream Mach number
PART	Data indexing number
PHI	Model roll angle, deg
POINT	Data indexing number per part number
$p_b$	Average static pressure at model base, psfa
$p_{\infty}$	Free-stream static pressure, psfa
$q_{\infty}$	Free-stream dynamic pressure, psf
R	Nominal Reynolds number per foot
S	Maximum body cross-sectional area, ft <sup>2</sup>
$S_F$	Tail fin planform area, ft <sup>2</sup> (see Fig. 6)
TEST	Test identification number
$T_R$	Tail fin root thickness, in. (see Fig. 6)

TRANSITION	Transition identification
X	Distance from fin root chord leading edge to fin hinge line, in. (see Fig. 6)
XCP	Missile body center-of-pressure location, CLM/CN
XCPF	Splitter plate fin longitudinal center-of-pressure location, CH/CNF
XCPF1, XCPF2 XCPF3, XCPF4	Longitudinal center-of-pressure location of tail fins No. 1, 2, 3, and 4, respectively, hinge moment/fin normal force
YCPF	Splitter plate fin lateral center-of-pressure location, CB/CNF
YCPF1, YCPF2 YCPF3, YCPF4	Lateral center-of-pressure location of tail fins No. 1, 2, 3, and 4, respectively, root bending moment/fin normal force
$\Lambda$	Tail fin leading-edge sweep angle (see Fig. 6)
$\lambda$	Tail fin taper ratio, $C_T/C_R$